P+.2

$2+9$

Attachment RCRA-I-1: Region III Underground Storage Tank Compliance Checklist

Multi-Media Inspection Report

Radford Army Ammunition Plant
May 16 to 20, 2011

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Facility ID Number

Leak Detection Inspection

I. Ownership of Tank(s)

Radford Army Ammunition Plant
Owner Name (Corporation, Individual, Public Agency or other entity)

Street Address

City State Zip Code

Area Code Phone Number

[redacted]
Contact Person At UST Location

II. Location of Tank(s)

Facility Name or Company Site Identifier, If different from left

Street Address or State Road, as applicable

City (nearest) State Zip Code

Area Code Phone Number

Number of Tanks at This Location: 3

III. Tank Information (Complete for each tank. If facility has more than 4 tanks, photocopy page and complete information for additional tanks.)

	Tank 1	Tank 2	Tank 3	Tank 4
Tank presently in use (circle)	(Tank 1)	(Tank 2)	(Tank 3)	
If not, date last used				N/A
If emptied, verify 1" or less of product in tank	—	—	—	
Month and Year Tank Installed	July 1992	July 1992	July 1992	
Material of Construction	Fiberglass	Fiberglass	Fiberglass	
Capacity of Tank (in gallons)	20,000	20,000	25,000	
Substance Stored	Gasoline	Gasoline	Diesel	

IV A. Release Detection For Tanks (Check the release detection method(s) used for each tank or N/A if none required)

Manual Tank Gauging (tanks under 1,000 gal.)	N/A	N/A	N/A	
Manual Tank Gauging and Tank Tightness Testing (tanks under 2,000 gal.)	N/A	N/A	N/A	
Tank Tightness Testing and Inventory Control	NO	NO	NO	
Automatic Tank Gauging	YES	YES	YES	
Vapor, Groundwater or Interstitial Monitoring	NO	NO	NO	
Other approved method	NO	NO	NO	

IV B. Release Detection For Piping (Check the release detection method(s) used for piping)

Check Pressurized (P) or Suction (S) Piping for each tank	P	P	P	
Automatic Line Leak Detectors, and check one	YES	YES	YES	
Vapor or Groundwater Monitoring	NO	NO	NO	
Secondary Containment with Monitoring	NO	NO	NO	
Line Tightness Testing	YES	YES	YES	

I Justin Young (print name) certify that I have inspected the above named facility on JY 7/11/2011 5/16/2011 (month/day/year)

Inspector's Signature: Justin Young Date: 7/11/2011

Facility ID Number

Leak Detection for Piping

Pressurized Piping A method must be selected from each set. Where applicable indicate date of last test. If this facility has more than 4 tanks, please photocopy this page and complete information for all additional piping.

Set 1	Tank 1	Tank 2	Tank 3	Tank 4
Automatic Flow Restrictor	YES	YES	YES	N/A
Automatic Shut-off Device	NO	NO	NO	↓
Continuous Alarm System	NO	NO	NO	↓
and				↓
Set 2				↓
Annual Line Tightness Testing	YES	YES	YES	↓
Interstitial Monitoring	NO	NO	NO	↓
If Interstitial Monitoring, documentation of monthly monitoring is available	N/A	N/A	N/A	↓
Ground-Water or Vapor Monitoring	NO	NO	NO	↓
If Ground-Water or Vapor Monitoring, documentation of monthly monitoring is available	N/A	N/A	N/A	↓
Other Approved Method (specify in comments section)	NO	NO	NO	↓
Suction Piping Indicate date of most recent test				
Line Tightness Testing (required every 3 years)	N/A	N/A	N/A	N/A
Secondary Containment with Interstitial Monitoring	↓	↓	↓	↓
Ground-Water or Vapor Monitoring	↓	↓	↓	↓
Other Approved Method (specify in comments section)	↓	↓	↓	↓
No Leak Detection Required (must answer yes to all of the following questions)	↓	↓	↓	↓
Operates at less than atmospheric pressure	↓	↓	↓	↓
Has only one check valve, which is located directly under pump	↓	↓	↓	↓
Slope of piping allows product to drain back into tank when suction released	↓	↓	↓	↓
All above information on suction piping is verifiable	✓	✓	✓	✓

On the back of this sheet, please sketch the site, noting all piping runs, tanks (including size and substances stored) and location of wells and their distance from tanks and piping.

Comments:

Inspector's Signature: [signature] Date: 7/11/2011

Facility ID Number

Inventory Control and Tank Tightness Testing

Method of tank tightness testing: _____

Address of tank tightness tester: _____

Please complete all information for each tank (If this facility has more than 4 tanks, please photocopy this page and complete the information for all additional tanks.)

	Tank 1	Tank 2	Tank 3	Tank 4
Date of last tank tightness test.				
Did tank pass test? Indicate yes or no. If no, specify in comments section below the status of the tank or what actions have been taken (e.g., has state been notified?)				
Documentation of deliveries and sales balances with daily measurements of liquid volume in tank are maintained and available.				
Overages or shortages are less than 1% + 130 gals of tank's flow-through volume.				
If no, which months were not?				

Please answer yes or no for each question.

Owner/operator can explain inventory control methods and figures used and recorded.	Yes ☐	No ☐
Records include monthly water monitoring.	Yes ☐	No ☐
Tank inventory reconciled before and after fuel delivery.	Yes ☐	No ☐
Books are reconciled monthly.	Yes ☐	No ☐
Appropriate calibration chart is used for calculating volume.	Yes ☐	No ☐
Dispenser pumps are calibrated to within 6 cubic inches per five gallons.	Yes ☐	No ☐
The drop tube in the fill pipe extends to within one foot of tank bottom.	Yes ☐	No ☐
Owner can demonstrate consistency in dipsticking techniques.	Yes ☐	No ☐
The dipstick is long enough to reach the bottom of the tank.	Yes ☐	No ☐
The ends of the gauge stick are flat and not worn down.	Yes ☐	No ☐
The dipstick is marked legibly & the product level can be determined to the nearest 1/8th inch.	Yes ☐	No ☐
The tank has been tested within the year & has passed the tightness test (if necessary).	Yes ☐	No ☐
A third-party certification of the tank tightness test method is available.	Yes ☐	No ☐
Tank tester complied with all certification requirements.	Yes ☐	No ☐
Monitoring and testing are maintained and available for the past 12 months.	Yes ☐	No ☐

Comments: Not used as form of compliance leak detection

Inspector's Signature: _____ Date: 7/11/2011

Facility ID Number

Vapor Monitoring

Name of monitoring device: _____

Date system installed _____ Number of monitoring wells _____

Distance of monitoring well(s) from tank(s) (1) _____ (2) _____ (3) _____ (4) _____

Site assessment was conducted by: _____

Location of site assessment documentation: _____

Please indicate yes or no for each tank. Please complete all information for each tank. If facility has more than 4 tanks, please photocopy this page and complete the information for additional tanks.

	Tank 1	Tank 2	Tank 3	Tank 4
Well is clearly marked and secured.				
Well caps are tight.				
Well is constructed so that monitoring device is not rendered inoperative by moisture or other interferences.				
Well is free of debris or has other indications that it has been recently checked.				

Please answer yes or no for each question

UST excavation zone was assessed prior to vapor monitoring system installation.	Yes ☐	No ☐
One or more USTs is/are included in system.	Yes ☐	No ☐

If the system is automatic, check the following:

Power box is accessible and power light is on.	Yes ☐	No ☐
Documentation of monthly readings is available for last 12 months.	Yes ☐	No ☐
Equipment used to take readings is accessible and functional.	Yes ☐	No ☐
Vapor monitoring equipment has been calibrated within the last year.	Yes ☐	No ☐

If the system is manual, check the following:

Documentation of monthly readings is available for last 12 months.	Yes ☐	No ☐
Equipment used to take readings is accessible and functional.	Yes ☐	No ☐
Vapor monitoring equipment has been calibrated within the last year.	Yes ☐	No ☐
Porous material was used for backfill.	Yes ☐	No ☐
Wells are placed within the excavation zone.	Yes ☐	No ☐
Level of background contamination is known. If so -- what is level? _____	Yes ☐	No ☐

On the back of this sheet, please sketch the site, noting all piping runs, tanks (including size and substances stored) and location of wells and their distance from tanks and piping.

Comments: Not used as form of leak detection for compliance

Inspector's Signature: _____ Date: 7/11/2011

Site Sketch/Photo Log

Facility ID Number

Manual Tank Gauging

Manual tank gauging may be used as the sole method of leak detection only for tanks of 1,000 gal. or fewer or in combination with tank tightness testing for tanks of up to 2,000 gal.

Please indicate the number of the tank or tanks for which manual tank gauging is used as the main leak detection method (e.g., tanks 1 & 4): _____

Please answer yes or no for each question		
Records show liquid level measurements are taken at beginning and end of period of at least ([Circle one] 36, 44, 58) hours during which no liquid is added to or removed from the tank.	Yes ☐	No ☐
Level measurements are based on average of two consecutive stick readings at both beginning and end of period.	Yes ☐	No ☐
Monthly average of variation between beginning and end measurements is less than standard shown below for corresponding size and dimensions of tank and waiting time.	Yes ☐	No ☐
Gauge stick is long enough to reach bottom of the tank. Ends of gauge stick are flat and not worn down.	Yes ☐	No ☐
Gauge stick is marked legibly and product level can be determined to the nearest one-eighth of an inch.	Yes ☐	No ☐
MTG is used as sole method of leak detection for tank.	Yes ☐	No ☐
MTG is used in conjunction with tank tightness testing.	Yes ☐	No ☐
Are all tanks for which MTG is used under 2,000 gallons in capacity?	Yes ☐	No ☐
Are monitoring records available for the last 12 month period?	Yes ☐	No ☐

Check One	Nominal Tank Capacity (in gallons)	Tank Dimensions	Monthly Standard (in gallons)	Minimum Test Duration
( )	550	N/A	5	36 hours
( )	551 - 1,000	N/A	7	36 hours
( )	1,000	64" diameter x 73" length	4	44 hours
( )	1,000	48" diameter x 128" length	6	58 hours
( )	1,001 - 2,000*	N/A	13	36 hours

* Manual tank gauging must be used in combination with tank tightness testing for tanks over 1,000 gal. and less than 2,000 gal.

Comments: Not used as form of leak detection for compliance

Inspector's Signature: _____ Date: 7/11/2011

Facility ID Number

Ground Water Monitoring

Date System Installed: _____

Distance of well from tank(s) (1) _____ (2) _____ (3) _____ (4) _____

Distance of well from piping (1) _____ (2) _____ (3) _____ (4) _____

Site assessment was conducted by: _____

Location of site assessment documentation: _____

Please answer each question of each well. If there are more than 4 wells, please photocopy this page and complete the information for all additional wells.

	Well 1	Well 2	Well 3	Well 4
Well is clearly marked and secured to avoid unauthorized access or tampering.				
Well was opened and presence of water was observed in well at depth of _____ ft.				

Please answer yes or no for each question

Wells are used to monitor piping.	Yes ☐	No ☐
Site assessment was performed prior to installation of wells.	Yes ☐	No ☐
Documentation of monthly readings is available.	Yes ☐	No ☐
Specific gravity of product is less than one.	Yes ☐	No ☐
Hydraulic conductivity of soil between UST system and monitoring wells is not less than 0.01 cm/sec. According to: _____	Yes ☐	No ☐
Groundwater is not more than 20 feet from ground surface.	Yes ☐	No ☐
Wells are sealed from the ground surface to top of filter pack.	Yes ☐	No ☐
Continuous monitoring device or manual bailing method used can detect the presence of at least one-eighth of an inch of the product on top of groundwater in well.	Yes ☐	No ☐
Groundwater is monitored: ( ) Manually on a monthly basis. ( ) Automatically (continuously or monthly basis [Circle one]).		
Check the following if groundwater is monitored <u>manually</u>: Bailer used is accessible and functional.	Yes ☐	No ☐
Check the following if groundwater is monitored <u>automatically</u>: Monitoring box is operational.	Yes ☐	No ☐
Checked for presence of sensor in monitoring well.	Yes ☐	No ☐

On the back of this sheet, please sketch the site, noting all piping runs, tanks (including size and substances stored) and location of wells and their distance from tanks and piping.

Comments: Not used as form of leak detection for compliance

Inspector's Signature: _____ Date: 7/11/2011

Facility ID Number

Interstitial Monitoring

Manufacturer and name of system: _____

Date system installed: _____

Materials used for secondary barrier: _____

Materials used for internal lining: _____

Interstitial space is monitored (Circle one): automatically, continuously, monthly basis.

Please answer yes or no for each question			
All tanks in system are fitted with secondary containment and interstitial monitoring.	Yes ☐	No ☐	N/A ☐
System is designed to detect release from any portion of UST system that routinely contains product.	Yes ☐	No ☐	N/A ☐
Monitoring method is documented as capable of detecting a leak as small as .1 gal./hr. with at least a 95% probability of detection and a probability of false alarm of no more than 5%.	Yes ☐	No ☐	N/A ☐
Documentation of monthly readings is available for last 12 months.	Yes ☐	No ☐	N/A ☐
Maintenance and calibration documents and records are available and indicate appropriate maintenance procedures for system have been implemented.	Yes ☐	No ☐	N/A ☐
Monitoring box, if present, is operational.	Yes ☐	No ☐	N/A ☐
If monitoring wells are part of leak detection system, monitoring wells are clearly marked and secured to avoid unauthorized access and tampering.	Yes ☐	No ☐	N/A ☐
Interstitial space is monitored manually on monthly basis (answer the following question).	Yes ☐	No ☐	N/A ☐
Equipment used to take readings is accessible and functional.	Yes ☐	No ☐	N/A ☐
Tank is double-walled	Yes ☐	No ☐	N/A ☐
Tank is fitted with internal bladder to achieve secondary containment (answer the following question).	Yes ☐	No ☐	N/A ☐
Bladder is compatible with substance stored and will not deteriorate in the presence of that substance.	Yes ☐	No ☐	N/A ☐
Excavation is lined with impervious artificial material to achieve secondary containment (answer the following questions).	Yes ☐	No ☐	N/A ☐
Secondary barrier is always above groundwater.	Yes ☐	No ☐	N/A ☐
If secondary barrier is not always above groundwater, secondary barrier and monitoring designs are for use under such conditions.	Yes ☐	No ☐	N/A ☐
Secondary barrier is constructed from artificially constructed material, with permeability to substance $< 10^{6}$ cm/sec.	Yes ☐	No ☐	N/A ☐
Secondary barrier is compatible with the regulated substances stored and will not deteriorate in presence of that substance.	Yes ☐	No ☐	N/A ☐
Secondary barrier does not interfere with operation of cathodic protection system.	Yes ☐	No ☐	N/A ☐

Comments: Not used as form of leak detection for compliance

Inspector's Signature: _____ Date: 7/11/2011

Facility ID Number

Automatic Tank Gauging

Manufacturer, name and model number of system: OPW EECO 1500

Please answer yes or no for each question		
Device documentation is available at site (e.g., manufacturer's brochures, owner's manual).	Yes ☑	No ☐
Device can measure height of product to nearest one-eighth of an inch.	Yes ☑	No ☐
Documentation shows that water in bottom of tank is checked monthly to nearest one-eighth of an inch.	Yes ☑	No ☐
Documentation is available that the ATG was in test mode a minimum of once a month.	Yes ☐	No ☑
Checked for presence of gauge in tanks.	Yes ☑	No ☐
Checked for presence of monitoring box and evidence that device is working (i.e., device is equipped with roll of paper for results documentation).	Yes ☑	No ☐
Owner/operator has documentation on file verifying method meets minimum performance standards of .20 gph with probability of detection of 95% and probability of false alarm of 5% for automatic tank gauging (e.g., results sheets under EPA's "Standard Test Procedures for Evaluating Leak Detection Methods").	Yes ☑	No ☐
Checked documentation that system was installed, calibrated, and maintained according to manufacturer's instructions.	Yes ☑	No ☐
Maintenance records are available upon request.	Yes ☑	No ☐
Monthly testing records are available for the past 12 months.	Yes ☐	No ☑
Daily monitoring records are available for the past 12 months (if applicable).	Yes ☐	No ☐

Comments: Facility did not have 12-months worth of leak detection passing results See Report #

Inspector's Signature: [signature]

Date: 7/11/2011

Facility ID Number

Statistical Inventory Reconciliation

Please complete all information for each tank — If this facility has more than 4 tanks, please photocopy this page and complete the information for all additional tanks.

Documentation of deliveries and sales balances with daily measurements of liquid volume in tank are maintained and available.				

Please answer yes or no for each question

Records include monthly water monitoring.	Yes ☐	No ☐
Tank inventory reconciled before and after fuel delivery.	Yes ☐	No ☐
Appropriate calibration chart is used for calculating volume.	Yes ☐	No ☐
Dispenser pumps are calibrated to within 6 cubic inches per five gallons.	Yes ☐	No ☐
The drop tube in the fill pipe extends to within one foot of tank bottom.	Yes ☐	No ☐
Answer one of the following three:		
1) Owner can demonstrate consistency in dipsticking techniques.	Yes ☐	No ☐
a) The dipstick is long enough to reach the bottom of the tank.	Yes ☐	No ☐
b) The end of the gauge stick is flat and not worn down.	Yes ☐	No ☐
c) The dipstick is legible & the product level can be determined to the nearest 1/8th inch.	Yes ☐	No ☐
OR		
2) Automatic tank gauge is used for readings.	Yes ☐	No ☐
OR		
3) Other method is used for readings (explain in comment section below).	Yes ☐	No ☐
A third-party certification of the SIR method is available.	Yes ☐	No ☐
Monitoring and testing records are maintained and available for the past 12 months.	Yes ☐	No ☐

Comments: Not used as a form of leak detection for compliance

Inspector's Signature: _____ Date: 7/11/2011

Facility ID Number

Spill/Overfill Prevention

	Tank 1	Tank 2	Tank 3	Tank 4
Are all tank transfers less than 25 gallons?	Yes ☐ No ☑	Yes ☐ No ☑	Yes ☐ No ☑	Yes ☐ No ☐
Spill Prevention				
Is there a spill bucket (at least 5 gallons) or another device that will prevent release of product to the environment (such as a dry disconnect coupling)?	Yes ☑ No ☐	Yes ☑ No ☐	Yes ☑ No ☐	Yes ☐ No ☐
Overfill Prevention				
What device is used to prevent tank from being overfilled?				
Ball float valve	Yes ☐ No ☑	Yes ☐ No ☑	Yes ☐ No ☑	Yes ☐ No ☐
Butterfly valve (in fill pipe)	Yes ☑ No ☐	Yes ☑ No ☐	Yes ☑ No ☐	Yes ☐ No ☐
Automatic alarm monitoring is used	Yes ☐ No ☑	Yes ☐ No ☑	Yes ☐ No ☑	Yes ☐ No ☐
Other alarm system	Yes ☐ No ☑	Yes ☐ No ☑	Yes ☐ No ☑	Yes ☐ No ☐

DOES THE FACILITY HAVE A FINANCIAL ASSURANCE MECHANISM? YES___ NO ✓ (PROVIDE COMMENTS AS TO COMPLIANCE STATUS FOR 40 C.F.R. PART 280 SUBPART H.)

Cathodic Protection

	Tank 1	Tank 2	Tank 3	Tank 4
Sacrificial Anode System				
Test results show a negative voltage of at least 0.85 Volts (using the tank and a copper/copper sulfate cell)?	Yes ☐ No ☐	Yes ☐ No ☐	Yes ☐ No ☐	Yes ☐ No ☐
The last two test results are available. (Tests are required every three years.)	Yes ☐ No ☐	Yes ☐ No ☐	Yes ☐ No ☐	Yes ☐ No ☐
Impressed Current				
Rectifier is on 24 hours a day?	Yes ☐ No ☐	Yes ☐ No ☐	Yes ☐ No ☐	Yes ☐ No ☐
The last two test results are available? (Tests are required every 60 days.)	Yes ☐ No ☐	Yes ☐ No ☐	Yes ☐ No ☐	Yes ☐ No ☐
Test results show a negative voltage of at least 0.85 Volts (using the tank and a copper/copper sulfate cell)?	Yes ☐ No ☐	Yes ☐ No ☐	Yes ☐ No ☐	Yes ☐ No ☐

Comments: No financial insurance for tested facility. Tanks were stated ✓ to be Fiberglass

Inspector's Signature: [signature] Date: 7/11/2011

Attachment RCRA-I-2: Tank Release Detection Records based on OPW Printouts

Multi-Media Inspection Report

Radford Army Ammunition Plant
May 16 to 20, 2011

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2010 FUEL STATION LEAK TESTS

YEAR 2010	TANK 1	TANK 2	TANK 3
January	Jan 1, Jan 31	Jan 10, Jan 24	Jan 17, Jan 24
February	Feb 1, Feb 28	Feb 14, Feb 28	14-Feb
March	Mar 7, Mar 28	Mar 7, Mar 28	Mar 7, Mar 28
April	April 11, April 25	April 1, April 25	April 4, April 25
May	May 1, May 30	May 2, May 30	May 2, May 30
June	June 13, June 20	June 1, June 27	June 1, June 27
July	July 4, July 27	July 1, July 25	July 1, July 18
August	August 1, August 29	August 1, August 22	August 1, August 22
September	Sept 5, Sept 26	Sept 5, Sept 26	No passing test
October	Oct 3, Oct 17	Oct 3, Oct 24	17-Oct
November	28-Nov	28-Nov	28-Nov
December	***	***	***

no print out

**** NO DATA AVAILIBLE DUE TO BACK UP BATTERY FAILURE

-25-10 11:33:33

TLM LEAK TEST HISTORY:

TANK 1 DIESEL

PASSED 0.2 LEAK TESTS

10-17-10	05:02
10-03-10	05:02
09-26-10	05:01
09-05-10	05:01
08-29-10	05:01
08-01-10	05:01
07-25-10	05:02
07-04-10	05:02
06-20-10	05:02
06-13-10	05:02
05-30-10	05:02
05-01-10	06:02
04-25-10	05:02
04-11-10	05:02
03-28-10	05:02
03-07-10	05:02
02-28-10	05:02
02-01-10	06:02
01-31-10	05:02
01-01-10	06:02
12-20-09	05:02
12-01-09	06:02
11-29-09	05:01
11-01-09	05:01

TANK 2 REG "A"

PASSED 0.2 LEAK TESTS

10-24-10	05:02
10-03-10	05:02
09-26-10	05:02
09-05-10	05:02
08-22-10	05:02
08-01-10	05:02
07-25-10	05:02
07-01-10	06:02
06-27-10	05:02
06-01-10	06:01
05-30-10	05:01
05-02-10	05:02
04-25-10	05:02
04-01-10	06:02
03-28-10	05:01
03-07-10	05:02
02-28-10	05:02
02-14-10	05:02
01-24-10	05:02
01-10-10	05:02
12-27-09	05:01
12-06-09	05:01
11-29-09	05:02
11-01-09	05:02

TANK 3 REG "B"

PASSED 0.2 LEAK TESTS

10-17-10	05:02
08-22-10	05:02
08-01-10	05:02
07-18-10	05:01
07-01-10	06:02
06-27-10	05:01
06-01-10	06:02
05-30-10	05:02
05-02-10	05:01
04-25-10	05:01
04-04-10	05:02
03-28-10	05:02
03-07-10	05:02
02-14-10	05:02
01-24-10	05:02
01-17-10	05:02
12-27-09	05:02
12-13-09	05:02
11-29-09	05:02
11-08-09	05:01
10-18-09	05:02
10-04-09	05:02
09-20-09	05:02
09-06-09	05:01

V087G

11-28-10 05:02:08

LEAK TEST REPORT

TANK 1 DIESEL

TEST TYPE:
MANUAL, 0.2 GPH
THRESHOLD: 0.1
LAST DELIVERY:
11-04-10 09:25
TEST START DATE:
11-28-10
TEST START TIME:
01:00
TEST LENGTH:
4.03 HOUR(S)
TANK CAPACITY:
25587 US GAL
% FULL VOLUME:
59
PRODUCT LEVEL 68.11 "
GROSS 15182 US GAL
NET 15112 US GAL
TEMPERATURE 70.04 F
RTD 1: 70.1 F
RTD 2: 70.1 F
RTD 3: 70.0 F
RTD 4: 68.1 F
RTD 5: 69.4 F
WATER LEVEL 0.00 "
WAT VOLUME 0 US GAL
COEFF 1: 0.1357
TEST RESULT:
PASSED
LEAK RATE: -0.02 GPH
VOLUME IS INCREASING
****

11-28-10 05:02:41

LEAK TEST REPORT

TANK 2 REG "A"

TEST TYPE:
MANUAL, 0.2 GPH
THRESHOLD: 0.1
LAST DELIVERY:
11-18-10 11:00
TEST START DATE:
11-28-10
TEST START TIME:
01:00
TEST LENGTH:
4.03 HOUR(S)
TANK CAPACITY:
19703 US GAL
% FULL VOLUME:
68
PRODUCT LEVEL 76.17 "
GROSS 13496 US GAL
NET 13406 US GAL
TEMPERATURE 70.81 F
RTD 1: 71.0 F
RTD 2: 70.9 F
RTD 3: 70.6 F
RTD 4: 70.2 F
RTD 5: 69.8 F
WATER LEVEL 0.00 "
WAT VOLUME 0 US GAL
COEFF 1: 0.1019
TEST RESULT:
PASSED
LEAK RATE: -0.04 GPH
VOLUME IS INCREASING
****

V087G

11-28-10 05:03:14

LEAK TEST REPORT

TANK 3 REG "B"

TEST TYPE:
MANUAL, 0.2 GPH
THRESHOLD: 0.1
TEST START DATE:
11-28-10
TEST START TIME:
01:00
TEST LENGTH:
4.03 HOUR(S)
TANK CAPACITY:
19703 US GAL
% FULL VOLUME:
68
PRODUCT LEVEL 76.26 "
GROSS 13515 US GAL
NET 13414 US GAL
TEMPERATURE 72.16 F
RTD 1: 72.3 F
RTD 2: 72.1 F
RTD 3: 72.2 F
RTD 4: 71.8 F
RTD 5: 71.5 F
WATER LEVEL 0.79 "
WAT VOLUME 18 US GAL
COEFF 1: 0.1019
TEST RESULT:
PASSED
LEAK RATE: -0.07 GPH
VOLUME IS INCREASING
****

2011 FUEL STATION LEAK TESTS

YEAR 2011	TANK 1	TANK 2	TANK 3
January	Jan 24, Jan 31, Jan 17	17-Jan	17-Jan
February	Feb 14, Feb 28	Feb 14, Feb 21	14-Feb
JY ~~No print outs~~ { March	Mar 7, Mar 28	Mar 14, Mar 21	21-Mar
April	Apr 18, Apr 25	25-Apr	11-Apr
May	May 2,.9,16	2-May	2-May
June			
July			
August			
September			
October			
November			
December			

☆ Printed out information covering March + April from ATG ~~for~~ with passing results

Attachment RCRA-I-3: Annual Line Leak Detector Test Records and Line Tightness Testing Records

Multi-Media Inspection Report

Radford Army Ammunition Plant
May 16 to 20, 2011

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SUPERIOR SERVICES
TANK COMPLIANCE TESTING

Superior Services
P.O. Box 982
Hendersonville, NC 28793
Tel: (828) 698-6286
Fax: (828) 698-6294
www.superiorservices.us

Customer:	Alliant Techsystems	Location:	Radford Army Ammunition Plant
	PO Box 1		State Route 114
	Radford, VA 24141		Radford, VA 24141
		Facility #	B-7220 Fuel Station

Technician:	David Morgan	Date:	3-22-11

Precision Line Tightness Test

Product	Regular	Diesel			
Line Construction	FG	FG			
Approximate Length(FT)	60'	70'			
STP Manufacturer	RJ Big Flow	RJ Big Flow			
Isolation Mechanism (STP)	BV	BV			
Isolation Mechanism (Dispenser)	SV	SV			
STP Static Pressure (PSI)	33	36			
Test Pressure (PSI)	60	60			
Time Last Dispensed	0840	0840			
Time Started	0911	0914			
Time Completed	0941	0944			
Total Test Time	30	30			
Initial Cylinder Level (ICL)	0725	0675			
Final Cylinder Level (FCL)	0725	0675			
Leak Volume = ICL-FCL	0000	0000			
Conclusion (Pass or Fail)	Pass	Pass			

Mechanical Line Leak Detector Test

Product	Regular	Diesel			
Leak Detector Manufacturer	VMI	VMI			
Model/Type	FX1V	FX1DV			
Serial #	N/A	N/A			
Resiliency ML	300	330			
Opening Time Seconds	<3.0	<3.0			
Functional Element Holding PSI	18	19			
Metering PSI	12	11			
Test Leak Rate ML/MN	189	189			
Pass/Fail	Pass	Pass			

Comments:

Hasstech Acurite Pipeline Tester

****CERTIFICATION****

This is to certify that

David Morgan

(Superior Testing Services)

CERTIFICATION NUMBER: 2225.LTN

has completed a course

in fundamentals of line testing methods

incorporating use of the

Hasstech ACURITE™ Pipeline Tester

according to NFPA 329-87.

Date: 06/28/2010

EXPIRATION DATE:
06/28/2012

BY: _____
Mike Treat
TRAINING MANAGER

BEFORE ME PERSONALLY APPEARED THE PERSON WHOSE SIGNATURE APPEARS ABOVE, WHO BY ME BEING SWORN, UPON OATH SAY THAT THE STATEMENTS SET FORTH HEREINABOVE ARE TRUE AND CORRECT. SUBSCRIBED AND SWORN TO ME, THIS 20th DAY OF JULY OF 2010.

KARI SMOLIK
MY COMMISSION EXPIRES:
September 21, 2011

SIGNATURE OF NOTARY

_____

TYPED NAME OF NOTARY
Kari D. Smolik
Expires Sept. 21, 2011

PRINTED IN U

Results of the Performance Evaluation
Conducted According to EPA Test Procedures

Pipeline Leak Detection System
Used as a
Line Tightness Test

This form summarizes the results of an evaluation to determine whether the pipeline leak detection system named below and described in Attachment 1 complies with federal regulations for conducting a line tightness test. The evaluation was conducted according to the United States Environmental Protection Agency's (EPA's) evaluation procedure, specified in *Standard Test Procedures for Evaluating Leak Detection Methods: Pipeline Leak Detection Systems*. The full evaluation report includes seven attachments.

Tank system owners who use this pipeline leak detection system should keep this form on file to show compliance with the federal regulations. Tank system owners should check with state and local agencies to make sure this form satisfies the requirements of these agencies.

System Evaluated

System Name: AcuRite™ PIPELINE TESTER Extended Operation Range
Version of System: Single & Multiple Line Tester*
Manufacturer Name: HASSTECH INC
(street address): 5960 - E. Evergate Mall
(city, state, zip code): San Diego CA 92121
(telephone number): 619/457-5880

AcuRite™ is a Trademark of Hasstech, Inc.

Evaluation Results

1. The performance of this system
   (X) meets or exceeds
   ( ) does not meet
   the federal standards established by the EPA regulation for line tightness tests.

   The EPA regulation for a line tightness test requires that the system be capable of detecting a leak as small as 0.1 gal/h with a probability of detection (P_D) of 95% and a probability of false alarm (P_{FA}) of 5%.

2. The estimated P_{FA} in this evaluation is 0 % and the estimated P_D against a leak rate of 0.1 gal/h defined at a pipeline pressure of 20 psi in this evaluation is 100 %.
   *The Multiple Line Tester uses the same basic hardware and constant test pressure, but contains multiple cylinders. It is manufactured by:
   Hutchinson Hayes International, Inc.
   P.O. Box 2965
   Houston, TX 77252
   Tel: 713/452-0222

Criterion for Declaring a Leak

3. This system -
   ( ) uses a preset threshold
   (X) measures and reports the output quantity and compares it to a predetermined threshold
   to determine whether the pipeline is leaking.

4. This system
   (X) uses a single test
   ( ) uses a multiple-test sequence consisting of ____ tests (specify number of tests required) separated by ____ hours (specify the time interval between tests)
   to determine whether the pipeline is leaking.

5. This system declares a leak if the output of the measurement system exceeds a threshold of 0.01 (specify flow rate in gal/h) in 1 out of 1 tests (specify, for example, 1 out of 2, 2 out of 3). Please give additional details, if necessary, in the space provided.

Evaluation Approach

6. There are five options for collecting the data used in evaluating the performance of this system. This system was evaluated
   ( ) at a special test facility (Option 1)
   ( ) at one or more instrumented operational storage tank facilities (Option 2)
   ( ) at five or more operational storage tank facilities verified to be tight (Option 3)
   (X) at 10 or more operational storage tank facilities (Option 4)
   ( ) with an experimentally validated computer simulation (Option 5)

7. A total of 90 tests were conducted on nonleaking tank(s) between 9/24/89 (date) and 10/13/89 (date). A description of the pipeline configuration used in the evaluation is given in Attachment 3.

Answer questions 8 and 9 if Option 1, 2, or 5 was used.

8. The pipeline used in the evaluation was _____ in. in diameter, _____ ft long and constructed of _____ (fiberglass, steel, or other).

9. A mechanical line leak detector
   ( ) was
   ( ) was not
   present in the pipeline system.

Answer questions 10 and 11 if Option 3 or 4 was used.

10. The evaluation was conducted on 106 (how many) pipeline systems ranging in diameter from 2 in. to 4 in., ranging in length from 3.5 ft to 300 ft, and constructed of steel and fiberglass (specify materials).

SUPERIOR
SERVICES
TANK COMPLIANCE TESTING

Superior Services
P.O. Box 982
Hendersonville, NC 28793
Tel: (828) 698-6286
Fax: (828) 698-6294
www.superiorservices.us

Customer:	Radford Army Ammunition Plant	Location:	Radford Army Ammunition Plant Building 7220
	PO Box 1		State Route 114
	Radford, VA 24141		Radford, VA
		Facility #	

Technician:	David Morgan	Date:	3-2-10

Precision Line Tightness Test

Product	Regular	Diesel			
Line Construction	Fiberglass	Fiberglass			
Approximate Length	60'	70'			
Pump Manufacturer	Red Jacket Big Flow	Red Jacket Big Flow			
Isolation Mechanism (Pump)	Ball Valve	Ball Valve			
Isolation Mechanism (Dispenser)	Shear Valve	Shear Valve			
Test Pressure (1.5 Times Working Pressure)	60 PSI	60 PSI			
Last Product Dispensed	0840	0840			
Time Started	0914	0918			
Time Completed	0944	0948			
Total Test Time (30 Minute Minimum)	30	30			
Initial Cylinder Level (ICL)	.0775	.0525			
Final Cylinder Level (FCL)	.0775	.0525			
Leak Volume = ICL-FCL	.0000	.0000			
Conclusion (Pass or Fail)	**Pass**	**Pass**			

Mechanical/Electronic Line Leak Detector Test

Product	Regular	Diesel			
Leak Detector Manufacturer	VeederRoot	VeederRoot			
Model/Type	FX1V	FX1DV			
Serial #	N/A	N/A			
Resiliency	295 ML	325 ML			
Opening Time	<3.0 sec	<3.0 sec			
Functional Element Holding PSI	18 PSI	19 PSI			
Metering PSI	12 PSI	13 PSI			
Test Leak Rate ML/MN	189	189			
Pass/Fail	**Pass**	**Pass**			

Comments:

Test Equipment
Hasstech Acurite Pipeline Tester
Threshold +-.005 GPH 30 Minutes
"Where [illegible] of Record."
PTO 0510 Leak 100% PPA 0%

****CERTIFICATION****

This is to certify that

David Morgan

(Superior Services)

CERTIFICATION NUMBER: 1852.LTN

has completed a course

in fundamentals of line testing methods

incorporating use of the

Hasstech ACURITE™ Pipeline Tester

according to NFPA 329-87.

Date: 07/28/2008

EXPIRATION DATE:
07/28/20010

BY: _____
Mike Treat
TRAINING MANAGER

BEFORE ME PERSONALLY APPEARED THE PERSON WHOSE SIGNATURE APPEARS ABOVE. WHO BY ME BEING SWORN, UPON OATH SAY THAT THE STATEMENTS SET FORTH HEREINABOVE ARE TRUE AND CORRECT. SUBSCRIBED AND SWORN TO ME, THIS 12th DAY OF August, OF 2008.

SIGNATURE OF NOTARY

KARI SMOLIK
MY COMMISSION EXPIRES
September 21, 2011

TYPED NAME OF NOTARY
Kari D. Smolik
Expires Sept. 21, 2011

PRINTED IN USA

Results of the Performance Evaluation
Conducted According to EPA Test Procedures

Pipeline Leak Detection System
Used as a
Line Tightness Test

This form summarizes the results of an evaluation to determine whether the pipeline leak detection system named below and described in Attachment 1 complies with federal regulations for conducting a line tightness test. The evaluation was conducted according to the United States Environmental Protection Agency's (EPA's) evaluation procedure, specified in *Standard Test Procedures for Evaluating Leak Detection Methods: Pipeline Leak Detection Systems*. The full evaluation report includes seven attachments.

Tank system owners who use this pipeline leak detection system should keep this form on file to show compliance with the federal regulations. Tank system owners should check with state and local agencies to make sure this form satisfies the requirements of these agencies.

System Evaluated

System Name: AcuRite™ PIPELINE TESTER Expanded Operation Range
Version of System: Single & Multiple Line Tester*
Manufacturer Name: HASSTECH, INC.
(street address) 5360 - E. Eastgate Mall
(city, state, zip code) San Diego, CA 92121
(telephone number) 619/457-5880
AcuRite™ is a Trademark of Hasstech, Inc.

Evaluation Results

1. The performance of this system
   (X) meets or exceeds
   ( ) does not meet
   the federal standards established by the EPA regulation for line tightness tests.

   The EPA regulation for a line tightness test requires that the system be capable of detecting a leak as small as 0.1 gal/h with a probability of detection (P_D) of 95% and a probability of false alarm (P_{FA}) of 5%.

2. The estimated P_{FA} in this evaluation is 0 % and the estimated P_D against a leak rate of 0.1 gal/h defined at a pipeline pressure of 20 psi in this evaluation is 100 %.
   *The Multiple Line Tester uses the same basic hardware and constant test pressure, but contains multiple cylinders. It is manfactured by:
   Hutchinson Hayes International, Inc.
   P.O. Box 2965
   Houston, TX. 77252
   Tel: 713/452-0222

Sensitivity to Trapped Vapor

14. ( ) According to the vendor, this system can be used even if trapped vapor is present in the pipeline during a test.
(x) According to the vendor, this system *should not be used* if trapped vapor is present in the pipeline.

15. The sensitivity of this system to trapped vapor is indicated by the test results summarized in Table 2. These tests were conducted at _____ psi with _____ ml of vapor trapped in the line at a pressure of 0 psi. The data and test conditions are reported in Attachment 6.

Table 2. Summary of the Results of Trapped Vapor Tests

Test No.	ΔT (°F)	Induced Leak Rate (gal/h)	Measured Leak Rate (gal/h)
1			
2			
3			

Performance Characteristics of the Instrumentation

16. State below the performance characteristics of the primary measurement system(s) used to collect the data. (Please specify the units, for example, gallons, inches.)

Quantity Measured: Gallons (Range 0 to 0.1)
Resolution: 0.0005 gal.
Precision: 0.0005 gal.
Accuracy: 0.001 gal.
Minimum Detectable Quantity: 0.001 gal.
Response Time: 30 Minutes
Threshold is exceeded when the flow rate due to a leak exceeds 0.01 gal/h.

Application of the System

17. This leak detection system is intended to test pipeline systems that are associated with underground storage tank facilities, that contain petroleum or other chemical products, that are typically constructed of fiberglass or steel, and that typically measure 2 in. in diameter and 200 ft or less in length. The performance estimates are valid when:

- the system that was evaluated has not been substantially changed by subsequent modifications
- the manufacturer's instructions for using the system are followed
- a mechanical line leak detector
  ( ) is present in
  (x) has been removed from
  the pipeline (check both if appropriate)

Radford Army Ammunition Plant
May 16 to 20, 2011

Attachment RCRA-I-4: Building [redacted] Emergency Generator Underground Storage Tank Inspection Report

Multi-Media Inspection Report

Radford Army Ammunition Plant
May 16 to 20, 2011

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Attachment CWA-1: Consent Order issued by the Virginia Department of Environmental Quality Blue Ridge Regional Office on June 25, 2010

Multi-Media Inspection Report

Radford Army Ammunition Plant
May 16 to 20, 2011

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COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY
Blue Ridge Regional Office
www.deq.virginia.gov

David K. Paylor
Director

Robert J. Weld
Regional Director

Douglas W. Domenech
Secretary of Natural Resources

Lynchburg Office
7705 Timberlake Road
Lynchburg, Virginia 24502
(434) 582-5120
Fax (434) 582-5125

Roanoke Office
3019 Peters Creek Road
Roanoke, Virginia 24019
(540) 562-6700
Fax (540) 562-6725

June 25, 2010

Ms. Paige W. Holt, Environmental Manager
Alliant Techsystems Inc.
P. O. Box 1
Radford, VA 24143-0100

RE: Consent Order
Radford Army Ammunition Plant (RAAP)
VPDES Permit No. VA0000248

Dear Ms. Holt:

One executed original of the Consent Order is enclosed. The effective date of the Order is **June 25, 2010**. Pursuant to Section D of the Order, payment of the civil charge is due no later than thirty days from that date.

Please contact me at 540/562-6817 if you have any questions.

Sincerely,

Jerry R. Ford, Jr.

Jerry R. Ford, Jr.
Enforcement Specialist – Senior

Enclosure

CC: Enforcement File

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY
Blue Ridge Regional Office
www.deq.virginia.gov

Douglas W. Domenech
Secretary of Natural Resources

David K. Paylor
Director

Steven A. Dietrich
Regional Director

Lynchburg Office
7705 Timberlake Road
Lynchburg, Virginia 24502
(434) 582-5120
Fax (434) 582-5125

Roanoke Office
3019 Peters Creek Road
Roanoke, Virginia 24019
(540) 562-6700
Fax (540) 562-6725

STATE WATER CONTROL BOARD
ENFORCEMENT ACTION - ORDER BY CONSENT
ISSUED TO
UNITED STATES ARMY (OWNER)
AND
ALLIANT TECHSYSTEMS, INC. (OPERATOR)
FOR
RADFORD ARMY AMMUNITION PLANT
VPDES Permit No. VA0000248

SECTION A: Purpose

This is a Consent Order issued under the authority of Va. Code § 62.1-44.15, between the State Water Control Board and the United States Army, RAAP (Owner) and Alliant Techsystems, Inc. (Operator), regarding the Radford Army Ammunition Plant, for the purpose of resolving certain violations of the State Water Control Law and the applicable permit and regulations.

SECTION B: Definitions

Unless the context clearly indicates otherwise, the following words and terms have the meaning assigned to them below:

1. "Alliant" means Alliant Techsystems, Inc., a corporation authorized to do business in Virginia and its affiliates, partners, subsidiaries, and parents. Alliant is a "person" within the meaning of Va. Code § 62.1-44.3.

2. "Board" means the State Water Control Board, a permanent citizens' board of the Commonwealth of Virginia, as described in Va. Code §§ 10.1-1184 and 62.1-44.7.

3. "BRRO" means the Blue Ridge Regional Office of DEQ located in Roanoke, Virginia.

4. "Department" or "DEQ" means the Department of Environmental Quality, an agency of the Commonwealth of Virginia, as described in Va. Code § 10.1-1183.

5. "Director" means the Director of the Department of Environmental Quality, as described in Va. Code § 10.1-1185.

6. "DMR" means Discharge Monitoring Report.

7. "Facility" or "RAAP" means the Radford Army Ammunition Plant, a manufacturing facility near Radford, Virginia owned by the United States Army, RAAP and operated by Alliant Techsystems, Inc.

8. "Notice of Violation" or "NOV" means a type of Notice of Alleged Violation under Va. Code § 62.1-44.15.

9. "O&M" means operations and maintenance.

10. "Order" means this document, also known as a "Consent Order" or "Order by Consent," a type of Special Order under the State Water Control Law.

11. "The Parties" means the United States Army, RFAAP (Owner) and Alliant Techsystems, Inc. (Operator).

12. "Permit" means VPDES Permit No. VA0000248, which was issued under the State Water Control Law and the Regulation to the Parties on June 10, 2005 and which expires on June 10, 2010.

13. "Pollutant" means dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials (except those regulated under the Atomic Energy Act of 1954, as amended (42 USC § 2011 *et seq.*)), heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water... 9 VAC 25-31-10.

14. "Pollution" means such alteration of the physical, chemical, or biological properties of any state waters as will or is likely to create a nuisance or render such waters (a) harmful or detrimental or injurious to the public health, safety, or welfare or to the health of animals, fish, or aquatic life; (b) unsuitable with reasonable treatment for use as present or possible future sources of public water supply; or (c) unsuitable for recreational, commercial, industrial, agricultural, or other reasonable uses, provided that (i) an alteration of the physical, chemical, or biological property of state waters or a discharge or deposit of sewage, industrial wastes or other wastes to state waters by any owner which by itself is not sufficient to cause pollution but which, in combination with such alteration of or discharge or deposit to state waters by other owners, is sufficient to cause pollution; (ii) the discharge of untreated sewage by any owner into state waters; and (iii)

contributing to the contravention of standards of water quality duly established by the Board, are "pollution." Va. Code § 62.1-44.3.

15. "Regulation" means the VPDES Permit Regulation, 9 VAC 25-31-10 *et seq.*

16. "State Water Control Law" means Chapter 3.1 (§ 62.1-44.2 *et seq.*) of Title 62.1 of the Va. Code.

17. "State waters" means all water, on the surface and under the ground, wholly or partially within or bordering the Commonwealth or within its jurisdiction, including wetlands. Va. Code § 62.1-44.3.

18. "U.S. Army" means the United States Army. U.S. Army is a "person" within the meaning of Va. Code § 62.1-44.3.

19. "Va. Code" means the Code of Virginia (1950), as amended.

20. "VAC" means the Virginia Administrative Code.

21. "VPDES" means Virginia Pollutant Discharge Elimination System.

22. "Warning Letter" or "WL" means a type of Notice of Alleged Violation under Va. Code § 62.1-44.15.

SECTION C: Findings of Fact and Conclusions of Law

1. RAAP is a federal facility owned by the federal government and administered by the Department of Defense, U. S. Army. The Facility is operated by a contract operator, Alliant. The Facility is permitted by VPDES Permit No. VA0000248 most recently re-issued on June 10, 2005 The Permit allows the Parties to discharge treated sewage and industrial wastes from the Facility to the New River, in strict compliance with the terms and conditions of the Permit.

2. The New River is located in the New River Basin. The New River is listed in DEQ's 303(d) report as impaired for PCBs. The source of the impairment is unknown.

3. In submitting its DMRs, as required by the Permit, the Parties have indicated that they exceeded discharge limitations contained in Part I.A.1 of the Permit, Outfall 005, for pH, Quality or Concentration, Minimum and Maximum, for the month of April 2009.

4. In submitting its DMRs, as required by the Permit, the Parties have indicated that they exceeded discharge limitations contained in Part I.A.1 of the Permit, Outfall 007, for pH, Quality or Concentration, Minimum, for the month of August 2009.

5. In submitting its DMRs, as required by the Permit, the Parties have indicated that they exceeded discharge limitations contained in Part I.A.1 of the Permit, Outfall 006, for pH, Quality or Concentration, Minimum, for the month of September 2009. In the transmittal letter dated October 9, 2009 that accompanied the DMR for September 2009, Alliant indicated that it believed the exceedance was related to a spill of sulfuric acid inside the Nitric/Sulfuric Acid Concentrator ("NAC/SAC") building.

6. The Department issued Notice of Violation ("NOV") No. W2009-11-W-001 to Alliant on November 10, 2009 for the pH effluent violation at Outfall 006, reported in the September 2009 DMR.

7. Alliant responded to the Notice of Violation by phone on November 12, 2009. Alliant submitted a follow-up letter to the Department on November 19, 2009. In the November 19, 2009 and the transmittal letter that accompanied the September 2009 DMR dated October 9, 2009, Alliant asserts the sulfuric acid spill in the NAC/SAC building migrated beyond the building because concrete surrounding a drain located on the outside south side of the building had deteriorated and allowed acid to infiltrate a nearby abandoned acid sewer line. The abandoned sewer line runs approximately five hundred yards and enters the Outfall 006 sewer system.

8. Va. Code § 62.1-44.5 states that: "[E]xcept in compliance with a certificate issued by the Board, it shall be unlawful for any person to discharge into state waters sewage, industrial wastes, other wastes, or any noxious or deleterious substances."

9. The Regulation, at 9 VAC 25-31-50, also states that except in compliance with a VPDES permit, or another permit issued by the Board, it is unlawful to discharge into state waters sewage, industrial wastes or other wastes.

10. Va. Code § 62.1-44.15(5a) states that a VPDES permit is a "certificate" under the statute.

11. The Department has issued no permits or certificates to the Parties other than VPDES Permit No. VA0000248.

12. The New River is a surface water located wholly within the Commonwealth and is a "state water" under State Water Control Law.

13. Based on the DMRs and documentation submitted on October 9, 2009 and the documentation submitted on November 19, 2009, the Board concludes that the Parties have violated the Permit, Va. Code § 62.1-44.5 and 9 VAC 25-31-50, by discharging wastewater while failing to comply with the conditions of the Permit, as described in paragraphs C3 through C7, above.

14. The Parties assert that they continue to operate the Facility in a workmanlike manner to prevent future effluent limit violations like the violations in paragraphs C3 and C4.

15. The Parties have submitted documentation that they have completed repairs to the drain at the NAC/SAC building to prevent entry of spilled acid in the abandoned sewer line. In addition, the abandoned sewer line is being permanently plugged with concrete to assure that this pathway to Outfall 006 is blocked. Alliant asserts that these repairs will correct the violation as described in paragraphs C5 through C7, above.

16. In order for the Parties to insure future compliance, DEQ staff and representatives of the Parties have agreed to the Schedule of Compliance, which is incorporated as Appendix A of this Order.

17. By signing this Order, the U.S. Army does not waive sovereign immunity.

SECTION D: Agreement and Order

Accordingly, by virtue of the authority granted it in Va. Code §§ 62.1-44.15, the Board orders the Parties, and the Parties agree to:

1. Perform the actions described in Appendix A of this Order; and

2. Alliant will pay a civil charge of $3,300 within 30 days of the effective date of the Order in settlement of the violations cited in this Order.

Payment shall be made by check, certified check, money order or cashier's check payable to the "Treasurer of Virginia," and delivered to:

Receipts Control
Department of Environmental Quality
Post Office Box 1104
Richmond, Virginia 23218

Alliant shall include its Federal Employer Identification Number (FEIN) **(41-1672694)** with the civil charge payment and shall indicate that the payment is being made in accordance with the requirements of this Order for deposit into the Virginia Environmental Emergency Response Fund (VEERF).

SECTION E: Administrative Provisions

1. The Board may modify, rewrite, or amend this Order with the consent of the Parties for good cause shown by the Parties, or on its own motion pursuant to the Administrative Process Act, Va. Code § 2.2-4000 *et seq.*, after notice and opportunity to be heard.

2. This Order addresses and resolves only those violations specifically identified in Section C of this Order. This Order shall not preclude the Board or the Director from taking any action authorized by law, including but not limited to: (1) taking any action authorized by law regarding any additional, subsequent, or subsequently discovered violations; (2) seeking subsequent remediation of the facility; or (3) taking subsequent action to enforce the Order.

3. For purposes of this Order and subsequent actions with respect to this Order only, the Parties admit to the jurisdictional allegations, and agree not to contest, but neither admit nor deny, the findings of fact and conclusions of law in this Order.

4. Alliant consents to venue in the Circuit Court of the City of Richmond for any civil action taken to enforce the terms of this Order.

5. The Parties declare that they have received fair and due process under the Administrative Process Act and the State Water Control Law and waive the right to any hearing or other administrative proceeding authorized or required by law or regulation, and to any judicial review of any issue of fact or law contained herein. Nothing herein shall be construed as a waiver of the right to any administrative proceeding for, or to judicial review of, any action taken by the Board to modify, rewrite, amend, or enforce this Order.

6. Failure by the Parties to comply with any of the terms of this Order shall constitute a violation of an order of the Board. Nothing herein shall waive the initiation of appropriate enforcement actions or the issuance of additional orders as appropriate by the Board or the Director as a result of such violations. Nothing herein shall affect appropriate enforcement actions by any other federal, state, or local regulatory authority.

7. If any provision of this Order is found to be unenforceable for any reason, the remainder of the Order shall remain in full force and effect.

8. The Parties shall be responsible for failure to comply with any of the terms and conditions of this Order unless compliance is made impossible by earthquake, flood, other acts of God, war, strike, or such other occurrence. The Parties shall show that such circumstances were beyond their control and not due to a lack of good faith or diligence on their part. The Parties shall notify the DEQ Regional Director verbally within 24 hours and in writing within three business days when circumstances are anticipated to occur, are occurring, or have occurred that may delay compliance or cause noncompliance with any requirement of the Order. Such notice shall set forth:

   a. The reasons for the delay or noncompliance;

   b. The projected duration of any such delay or noncompliance;

   c. The measures taken and to be taken to prevent or minimize such delay or noncompliance; and

d. The timetable by which such measures will be implemented and the date full compliance will be achieved.

Failure to so notify the Regional Director verbally within 24 hours and in writing within three business days, of learning of any condition above, which the Parties intend to assert will result in the impossibility of compliance, shall constitute a waiver of any claim to inability to comply with a requirement of this Order.

9. This Order is binding on Alliant hereto, its successors in interest, designees and assigns, jointly and severally.

10. This Order shall become effective upon execution by both the Director or his designee and the Parties. Nevertheless, the Parties agree to be bound by any compliance date which precedes the effective date of this Order.

11. This Order shall continue in effect until:

a. The Parties petition the Director or his designee to terminate the Order after they have completed all of the requirements of the Order and the Director or his designee approves the termination of the Order; or

b. The Director or Board terminates the Order in his or its sole discretion upon 30 days' written notice to the Parties.

Termination of this Order, or any obligation imposed in this Order, shall not operate to relieve the Parties from their obligation to comply with any statute, regulation, permit condition, other order, certificate, certification, standard, or requirement otherwise applicable.

12. In accordance with the Federal Anti-Deficiency Act, the obligations of the U.S. Army under this section are expressly conditioned on the availability of Congressional appropriations, which the U.S. Army agrees to seek in amounts sufficient to timely accomplish these undertakings. If sufficient appropriations are not available and cannot be obtained, the U.S. Army will promptly inform the DEQ Regional Director. In such case, the Director may terminate the Order and take other action, if so desired, or amend the Order with U.S. Army consent or in accordance with the Administrative Process Act.

13. Any plans, reports, schedules or specifications attached hereto or submitted by the Parties and approved by the Department pursuant to this Order are incorporated into this Order. Any non-compliance with such approved documents shall be considered a violation of this Order.

14. The undersigned representatives of the Parties certify that they are a responsible official authorized to enter into the terms and conditions of this Order and to execute and legally bind the Parties to this document. Any documents to be submitted pursuant to this Order shall also be submitted by a responsible official of the Parties.

15. This Order constitutes the entire agreement and understanding of the parties concerning settlement of the violations identified in Section C of this Order, and there are no representations, warranties, covenants, terms or conditions agreed upon between the parties other than those expressed in this Order.

16. By their signatures below, the Parties voluntarily agrees to the issuance of this Order.

And it is so ORDERED this 25th day of June, 2010.

Robert J. Weld

~~Steven A. Dietrich~~, Regional Director
Department of Environmental Quality

The United States Army, RAAP voluntarily agrees to the issuance of this Order.

Date: 10 March 10 By: Antonio Munera

Antonio Munera
Lieutenant Colonel, U.S. Army Commanding

Commonwealth of Virginia
County of Montgomery

The foregoing document was signed and acknowledged before me this 10 day of March, 2010, by Antonio Munera who is the Commander of Radford Army Ammunition Plant, United States Army.

Lisa Y. Epperly
Notary Public

Registration No.

My commission expires: _____

Notary seal:

Lisa Y. Epperly
Notary Public
Commonwealth of Virginia
My Commission Expires Aug 31, 2011
Notary Registration # 218415

Alliant Techsystems, Inc. voluntarily agrees to the issuance of this Order.

Date: March 9, 2010 By: _____

Kent Holiday, Vice President and General Manger
Alliant Techsystems, Inc.

Commonwealth of Virginia
County of Montgomery

The foregoing document was signed and acknowledged before me this 9th day of March, 2010, by Kent Holiday who is Vice President and General Manger of Alliant Techsystems, Inc., on behalf of the corporation.

_____
Notary Public

_____
Registration No.

My commission expires: _____

Notary Seal:

Lisa Y. Epperly
Notary Public
Commonwealth of Virginia
My Commission Expires Aug 31, 2011
Notary Registration # 218415

APPENDIX A
SCHEDULE OF COMPLIANCE

The Parties shall:

1. Review the operation and maintenance documents related to the operation of the NAC/SAC process. The review shall focus on the policies and procedures associated with spill prevention and spill control and determine if the current procedures are sufficient to prevent spills and facilitate sufficient spill response. This review shall be completed no later than March 31, 2010.

2. Submit to the Department the results of the review required in Paragraph 1 of this Appendix no later than April 14, 2010. If the Parties propose any revisions to the spill control or spill response policies and procedures, the revisions will require approval by the Department.

3. Complete construction and place into service the new NAC/SAC process building no later than December 31, 2010. The Parties shall notify the Department no later than 10 days after the completion of this item.

4. Take the current NAC/SAC process building permanently out of service no later than December 31, 2011. The Parties shall notify the Department no later than 10 days after the completion of this item.

5. Provide the Department with quarterly progress reports on the status of the items listed in Paragraphs 3 and 4 of this Appendix. The quarterly progress reports shall be submitted no later than April 10, 2010, July 10, 2010, October 10, 2010, January 10, 2011, April 10, 2011, July 10, 2011, and October 2011.

6. Unless otherwise specified in this Order, the Parties shall submit all requirements of Appendix A of this Order to:

   Jerry Ford, Jr.
   Enforcement Specialist Senior
   Virginia DEQ –Blue Ridge Regional Office]
   3019 Peters Creek Road
   Roanoke, VA 24019
   540/562-6817
   540/562-6725
   Jerry.Ford@deq.virginia.gov

Attachment CWA-2: Hazardous Waste Analyses of Bioplant Sludge

Multi-Media Inspection Report

Radford Army Ammunition Plant
May 16 to 20, 2011

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ALLIANT TECHSYSTEMS

Radford Army Ammunition Plant
P.O. Box 1
Radford, VA 24141-0100

FTK

Date: September 6, 1995

Subject: Explosive Reactivity of Contaminated Process Waste

To: [redacted]

From: [redacted]
Organization: Hazards Analysis
MS:
Bldg. [redacted]
Telephone: [redacted]

c: [redacted]

HG-95-M-027

Explosive Reactivity of Sludge from Biological Plant Equalization Basin

Explosive reactivity testing showed that water wet Biological Plant sludges containing an estimated 20% propellant granules do not react explosively in the Bureau of Mines flame initiated Deflagration to Detonation or the shock initiated Zero Gap Tests even down to the ≈1% moisture level.

Sludge taken from several locations in the equalization basin servicing the Biological Plant (building 470) was blended to form a master sample. The Technical Analytical Laboratory performed analysis on the sludge sample to determine the percent of propellant present by weight[1]. The sample consisted of an estimated 20% granules of various propellant compositions. The remainder of the sample was a mucky material consisting of grit, sand, and biological material. The master sample was then subjected to the Bureau of Mines flame initiated Deflagration to Detonation (DDT) and shock initiated Zero Gap tests to determine if the sludge would react explosively. The sample was tested at ≈48%, ≈20% and ≈1% moisture levels, see Table 1. Three trials were performed at each moisture level in both the DDT and Zero Gap tests.

As can be seen from the data in Table 1, the test results revealed that the water wet and dry sludge samples did not react explosively when subjected to the flame and shock stimuli provided in these tests.

References

1. Winslow, N. A., "Bio Plant Sludge Propellant Analysis", August 31 1986.

REIC

Improving the environment, one client at a time...

225 Industrial Park Drive
Beaver, WV 25813
TEL: 304.255.2500
FAX: 304.255.2572

3029-C Peters Creek Road
Roanoke, VA 24019
TEL: 540.777.1276
FAX: 540.400.8508

101 17th Street
Ashland, KY 41101
TEL: 606.393.5027

1557 Commerce Road, Suite 201
Verona, VA 24482
TEL: 540.248.0183

May 11, 2011

Mr.
ALLIANT AMMUNITION & POWDER CO.
P O BOX 1
S R 114 RADFORD AFP
RADFORD VA 24143-0100

TEL: [redacted]
FAX [redacted]

RE: U800910 [redacted]

Order No.: 1105324

Dear Mr.

REI Consultants, Inc. received 3 sample(s) on 5/4/2011 for the analyses presented in the following report.

Please note two changes you may see on your report.

- Results for "Dissolved" parameters will be shown under a separate sample ID, rather than as a separate analysis under the same sample ID. The sample ID for "Dissolved" parameters will include "Field Filtered" or "Lab Filtered", as appropriate.
- Metals results will no longer be identified as "Total" or "Total Recoverable". The methods have not been changed, only their appearance on the report.

If you have any questions regarding these results, please do not hesitate to call.

Sincerely,

Scott Gross
Project Manager

ACCREDITED IN ACCORDANCE WITH nelac

TABLE 1

Reactivity Tests Results of Building [redacted] Biological Sludge

Sample	Moisture Level (%)	Percent of Propellant in Sludge[1]	Results of DDT tests (flame)[2]	Results of Zero Gap tests (shock)[2]
Sludge from Building 470 equalization basin[3]	46.1 – 50.0		No reaction Three trials	No reaction Three trials
	19.3 – 21.0		No reaction Three trials	No reaction Three trials
	0.6 – 0.7	≈20%	No reaction Three trials	No reaction Three trials

1. Dry weight basis, amount of propellant granules in sludge sample per Technical Analytical laboratory memo dated 8/31/95.

2. Tests were performed using the Bureau of Mines flame initiated Deflagration to Detonation and shock initiated Zero Gap test described in Hazards Analysis Report HA–86–R–008.

3. Samples were pulled from several locations in the equalization basin at Building [redacted] and then mixed to form a master sample.

REIC

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225 Industrial Park Drive
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TEL: 304.255.2500
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101 17th Street
Ashland, KY 41101
TEL: 606.393.5027

1557 Commerce Road, Suite 201
Verona, VA 24482
TEL: 540.248.0183

Report Narrative

Project Manager:: **Scott Gross**

WO#: **1105324**
Date: **5/11/2011**

CLIENT: ALLIANT AMMUNITION & POWDER C
Project: U800910

All analyses were performed using documented laboratory SOPs that incorporate appropriate quality control procedures as described in the applicable methods. REI Consultants, Inc. (REIC) technical managers have verified compliance of reported results with the REIC's Quality Program and SOPs, except as noted in this case narrative. Any deviation from compliance or method modification is explained below and/or identified within the body of this report by a qualifier footnote which is defined at the bottom of each page.

All sample results are reported on an "as-received" wet weight basis unless otherwise noted.

Results reported for sums of individual parameters, such as Total Trihalomethanes (TTHM) and Total Haloacetic Acids (HAA5), may vary slightly from the sum of the individual parameter results. This apparent anomaly is caused by rounding individual results and summations at reporting, as required by EPA.

Following standard laboratory protocol, sample preservation, such as pH, is verified at time of extraction or analysis based on client requested parameters. Improper preservation is noted on the analytical bench sheet, extraction log, or preservation log and client is notified by close of following business day. All results are reported using preservation compliant samples unless otherwise noted in the analytical report.

The test results in this report meet all NELAP requirements for parameters for which accreditations are required or available. Any exceptions are noted in this report. This report may not be reproduced, except in full, without the written approval of REIC.

In compliance with federal guidelines and standard operating procedures, all reports, including raw data and supporting quality control, will be disposed of after five years unless otherwise arranged by the client via written notification or contract requirement.

If you have any questions please contact the project manager whose name is listed above.

REI Consultants, Inc. Analytical Results

Date: *11-May-11*

CLIENT:	ALLIANT AMMUNITION & POWDER CO.	**WorkOrder**	1105324 **Lab ID** 1105324-01A
Client Sample ID:	COMPOSITE 244	**DateReceived**	5/4/2011
Project:	U800910	**Collection Date:**	5/3/2011 2:15:00 PM
Site ID:	BIOPLANT SLUDGE	**Matrix:**	SOLID

Analyses	Result	Units	Qual	PQL	MCL	Prep Date	Date Analyzed
TCLP METALS BY ICP			**SW1311/6010C**			Analyst: **JD**	
Arsenic	ND	mg/L		0.500	5.00	05/05/11 8:09 AM	05/05/11 5:49 PM
Barium	ND	mg/L		1.00	100	05/05/11 8:09 AM	05/05/11 5:49 PM
Cadmium	ND	mg/L		0.050	1.00	05/05/11 8:09 AM	05/05/11 5:49 PM
Chromium	ND	mg/L		0.500	5.00	05/05/11 8:09 AM	05/05/11 5:49 PM
Lead	ND	mg/L		0.500	5.00	05/05/11 8:09 AM	05/05/11 5:49 PM
Selenium	ND	mg/L		0.200	1.00	05/05/11 8:09 AM	05/05/11 5:49 PM
Silver	ND	mg/L		0.100	5.00	05/05/11 8:09 AM	05/05/11 5:49 PM
TCLP MERCURY			**SW1311/7470**			Analyst: **CGW**	
Mercury	ND	mg/L		0.0020	0.200	05/05/11 12:50 PM	05/06/11 12:41 PM
TCLP PERCENT SOLIDS			**SW1311**			Analyst: **KD**	
Percent Solids	100	wt%		NA	NA	05/04/11 12:00 AM	05/04/11 7:00 PM
TCLP SEMIVOLATILES			**SW1311/8270D**			Analyst: **CLS**	
2,4-Dinitrotoluene	ND	mg/L		0.024	0.130	05/09/11 8:37 AM	05/10/11 1:49 PM
Surr: 2-Fluorobiphenyl	67.3	%REC		58.6-110	NA	05/09/11 8:37 AM	05/10/11 1:49 PM
Surr: 4-Terphenyl-d14	64.7	%REC		55.1-110	NA	05/09/11 8:37 AM	05/10/11 1:49 PM
Surr: Nitrobenzene-d5	75.0	%REC		61.8-110	NA	05/09/11 8:37 AM	05/10/11 1:49 PM

Key:
- MCL Maximum Contaminant Level
- MDL Minimum Detection Limit
- NA Not Applicable
- ND Not Detected at the PQL or MDL
- PQL Practical Quantitation Limit
- TIC Tentatively Identified Compound, Estimated Concentration

Qualifiers:
- B Analyte detected in the associated Method Blank
- E Estimated Value above quantitation range
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate Recovery exceeds REIC control limits
- * Value exceeds MCL or Regulatory Limits

REI Consultants, Inc. Analytical Results

Date: *11-May-11*

CLIENT:	ALLIANT AMMUNITION & POWDER CO.	**WorkOrder**	1105324	**Lab ID**	1105324-02A
Client Sample ID:	COMPOSITE 359	**DateReceived**	5/4/2011		
Project:	U800910	**Collection Date:**	5/3/2011 2:15:00 PM		
Site ID:	BIOPLANT SLUDGE	**Matrix:**	SOLID		

Analyses	Result	Units	Qual	PQL	MCL	Prep Date	Date Analyzed
TCLP METALS BY ICP			**SW1311/6010C**			Analyst: **JD**	
Arsenic	ND	mg/L		0.500	5.00	05/05/11 8:09 AM	05/05/11 5:52 PM
Barium	ND	mg/L		1.00	100	05/05/11 8:09 AM	05/05/11 5:52 PM
Cadmium	ND	mg/L		0.050	1.00	05/05/11 8:09 AM	05/05/11 5:52 PM
Chromium	ND	mg/L		0.500	5.00	05/05/11 8:09 AM	05/05/11 5:52 PM
Lead	0.701	mg/L		0.500	5.00	05/05/11 8:09 AM	05/05/11 5:52 PM
Selenium	ND	mg/L		0.200	1.00	05/05/11 8:09 AM	05/05/11 5:52 PM
Silver	ND	mg/L		0.100	5.00	05/05/11 8:09 AM	05/05/11 5:52 PM
TCLP MERCURY			**SW1311/7470**			Analyst: **CGW**	
Mercury	ND	mg/L		0.0020	0.200	05/05/11 12:50 PM	05/06/11 12:43 PM
TCLP PERCENT SOLIDS			**SW1311**			Analyst: **KD**	
Percent Solids	100	wt%		NA	NA	05/04/11 12:00 AM	05/04/11 7:00 PM
TCLP SEMIVOLATILES			**SW1311/8270D**			Analyst: **CLS**	
2,4-Dinitrotoluene	ND	mg/L		0.024	0.130	05/09/11 8:37 AM	05/10/11 2:20 PM
Surr: 2-Fluorobiphenyl	70.7	%REC		58.6-110	NA	05/09/11 8:37 AM	05/10/11 2:20 PM
Surr: 4-Terphenyl-d14	68.1	%REC		55.1-110	NA	05/09/11 8:37 AM	05/10/11 2:20 PM
Surr: Nitrobenzene-d5	80.6	%REC		61.8-110	NA	05/09/11 8:37 AM	05/10/11 2:20 PM

Key:			Qualifiers:		
	MCL	Maximum Contaminant Level		B	Analyte detected in the associated Method Blank
	MDL	Minimum Detection Limit		E	Estimated Value above quantitation range
	NA	Not Applicable		H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the PQL or MDL		S	Spike/Surrogate Recovery exceeds REIC control limits
	PQL	Practical Quantitation Limit		*	Value exceeds MCL or Regulatory Limits
	TIC	Tentatively Identified Compound, Estimated Concentration			

REI Consultants, Inc. Analytical Results

Date: *11-May-11*

CLIENT:	ALLIANT AMMUNITION & POWDER CO.	**WorkOrder**	1105324 **Lab ID** 1105324-03A
Client Sample ID:	COMPOSITE 243	**DateReceived**	5/4/2011
Project:	U800910	**Collection Date:**	5/3/2011 2:15:00 PM
Site ID:	BIOPLANT SLUDGE	**Matrix:**	SOLID

Analyses	Result	Units	Qual	PQL	MCL	Prep Date	Date Analyzed
TCLP METALS BY ICP			**SW1311/6010C**			Analyst: **JD**	
Arsenic	ND	mg/L		0.500	5.00	05/05/11 8:09 AM	05/05/11 5:55 PM
Barium	ND	mg/L		1.00	100	05/05/11 8:09 AM	05/05/11 5:55 PM
Cadmium	ND	mg/L		0.050	1.00	05/05/11 8:09 AM	05/05/11 5:55 PM
Chromium	ND	mg/L		0.500	5.00	05/05/11 8:09 AM	05/05/11 5:55 PM
Lead	ND	mg/L		0.500	5.00	05/05/11 8:09 AM	05/05/11 5:55 PM
Selenium	ND	mg/L		0.200	1.00	05/05/11 8:09 AM	05/05/11 5:55 PM
Silver	ND	mg/L		0.100	5.00	05/05/11 8:09 AM	05/05/11 5:55 PM
TCLP MERCURY			**SW1311/7470**			Analyst: **CGW**	
Mercury	ND	mg/L		0.0020	0.200	05/05/11 12:50 PM	05/06/11 12:44 PM
TCLP PERCENT SOLIDS			**SW1311**			Analyst: **KD**	
Percent Solids	100	wt%		NA	NA	05/04/11 12:00 AM	05/04/11 7:00 PM
TCLP SEMIVOLATILES			**SW1311/8270D**			Analyst: **CLS**	
2,4-Dinitrotoluene	ND	mg/L		0.024	0.130	05/09/11 8:37 AM	05/10/11 2:50 PM
Surr: 2-Fluorobiphenyl	71.5	%REC		58.6-110	NA	05/09/11 8:37 AM	05/10/11 2:50 PM
Surr: 4-Terphenyl-d14	70.1	%REC		55.1-110	NA	05/09/11 8:37 AM	05/10/11 2:50 PM
Surr: Nitrobenzene-d5	81.1	%REC		61.8-110	NA	05/09/11 8:37 AM	05/10/11 2:50 PM

Key:
- MCL Maximum Contaminant Level
- MDL Minimum Detection Limit
- NA Not Applicable
- ND Not Detected at the PQL or MDL
- PQL Practical Quantitation Limit
- TIC Tentatively Identified Compound, Estimated Concentration

Qualifiers:
- B Analyte detected in the associated Method Blank
- E Estimated Value above quantitation range
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate Recovery exceeds REIC control limits
- * Value exceeds MCL or Regulatory Limits

REIC

CHAIN OF CUSTODY RECORD NO. 264744

REI Consultants, Inc.
225 Industrial Park Rd.
P.O. Box 286, Beaver, WV 25813
Phone: 304-255-2500 or 800-999-0105
FAX: 304-255-2572
e-mail: rlabs@reiclabs.com

CLIENT: Alliant Techsystems
ADDRESS: St. Rt. 114 P.O. Box 1
CITY/STATE/ZIP: Radford, VA 24141
BILL TO:
CITY/STATE/ZIP:
PURCHASE ORDER # AR3056
QUOTE #

CONTACT PERSO [redacted]
TELEPHONE #: [redacted]
FAX #: " " 8109
E-MAIL ADDRESS: [redacted]
SITE ID & STATE: (VA) U800910 Bioplant Sludge
PROJECT ID: U800910
SAMPLER: [redacted]

SAMPLE LOG AND ANALYSIS REQUEST

TURNAROUND TIME REQUIREMENTS
REGULAR: X
*RUSH: ___ 5-Day ___ 3-Day ___ 2-Day ___ 1-Day
*Rush work needs prior Laboratory approval and will include surcharges

PRESERVATIVES
0 No Preservative
1 Hydrochloric Acid
2 Nitric Acid
3 Sulfuric Acid
4 Sodium Thiosulfate
5 Sodium Hydroxide
6 Zinc Acetate
7 EDTA

PRESERVATIVE CODES — NOTE PRESERVATIVES →

SAMPLE ID	NO. & TYPE OF CONTAINERS	SAMPLING DATE / TIME	MATRIX	SAMPLE COMP / GRAB	ANALYSIS REQUESTED & METHOD: TCLP RCRA Metals	TCLP 24 DNT	COMMENTS
Composite 244	1 plastic	5-3-11 1415	solid	comp.	X	X	
Composite 359	1 plastic	5-3-11 1415	solid	comp.	X	X	Please copy: [redacted]
Composite 243	1 plastic	5-3-11 1415	solid	comp.	X	X	[redacted]

[redacted] Relinquished by: (Signature) — 5-3-11 1420 Date/Time — Received by: (Signature) — Date/Time — Relinquished by: (Signature) — Date/Time — Received by: (Signature) — Date/Time

5-4-11 1000 Date/Time — Received by: (Signature) — Date/Time — Temperature Upon Arrival 2.0 °C

☐ FAX Results ☒ Email Results

Attachment CWA-3: Photographs of Cleanup of Lime Spills at Lime Storage Area

Multi-Media Inspection Report

Radford Army Ammunition Plant
May 16 to 20, 2011

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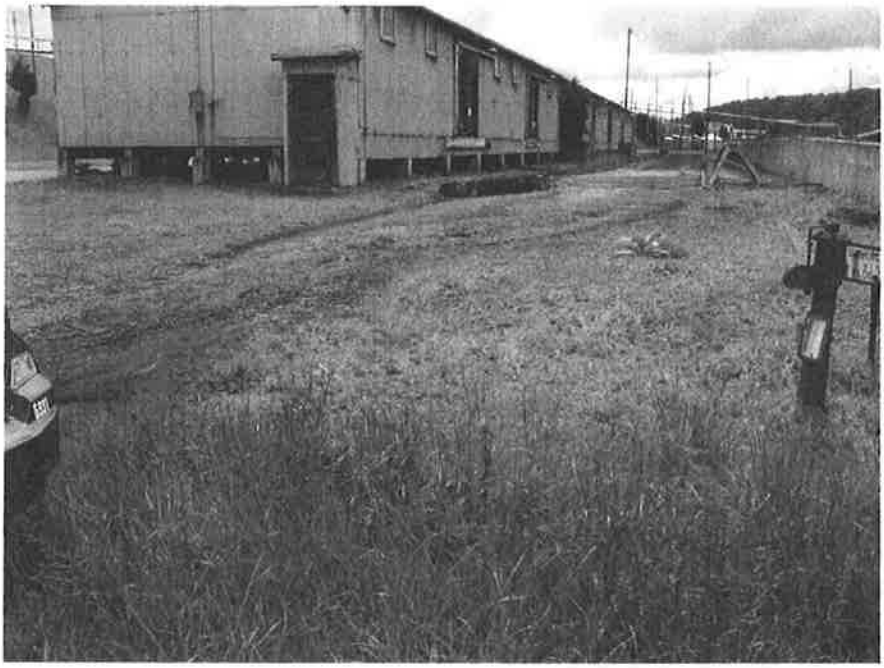
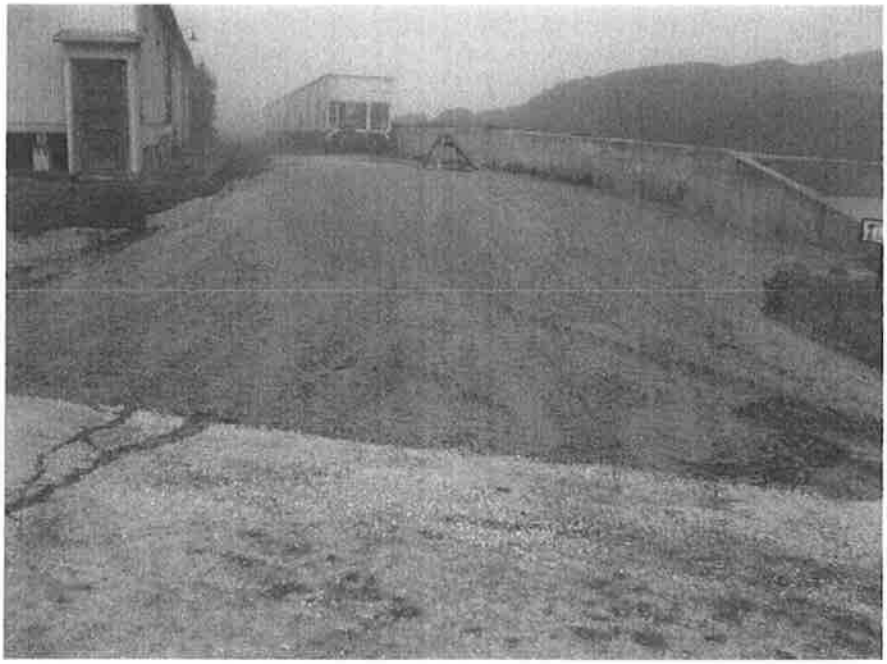


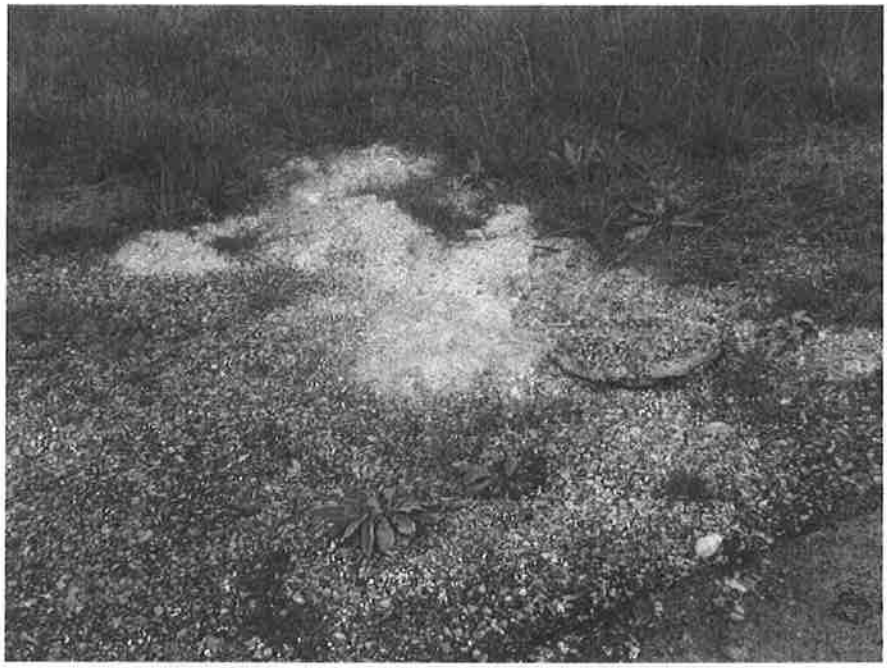
Lime Spill at Coal Pile East End Rail Spur



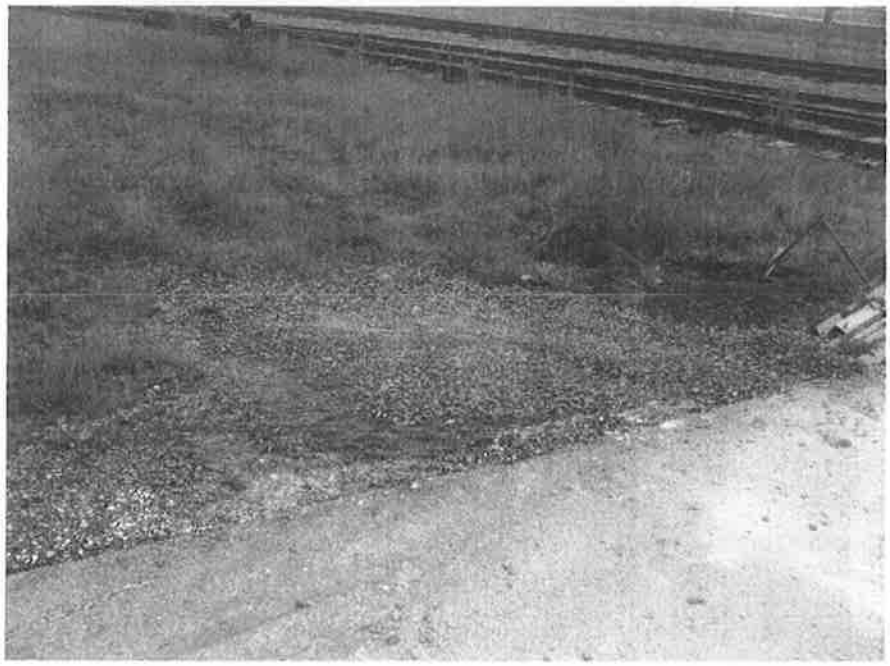
Cleaned Lime Spill at Coal Pile East End Rail Spur

Uncovered Roll-off Box at the AB Waste Acid Treatment Plant

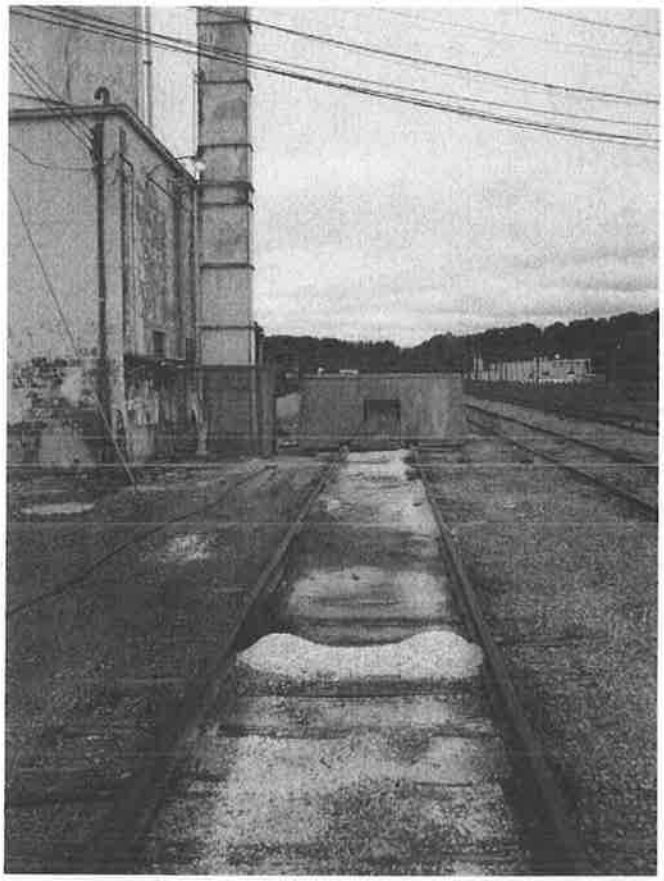
Removed Uncovered Roll-off Box at the AB Waste Acid Treatment Plant



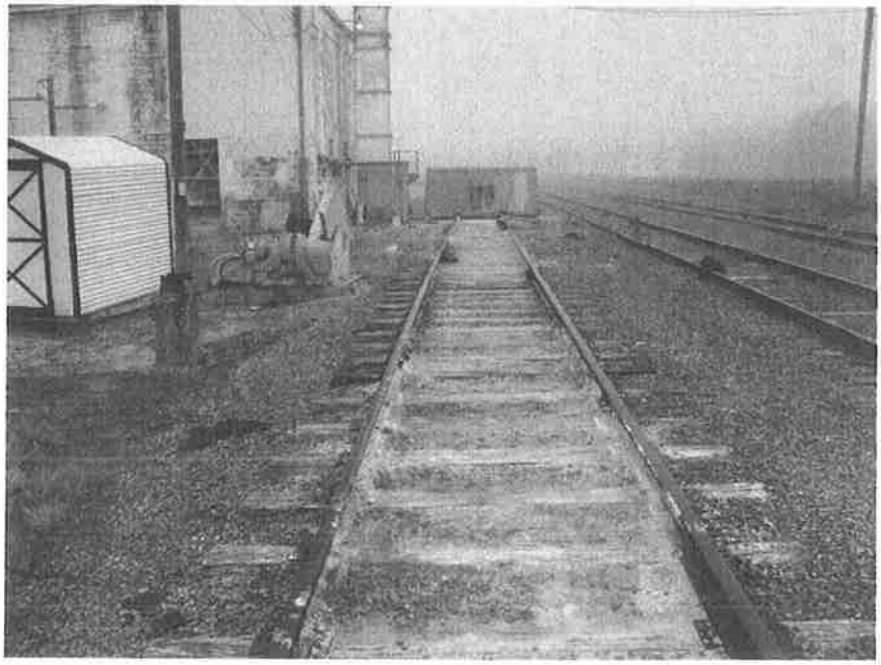
Lime on the Ground at the AB Waste Acid Treatment Plant



Cleaned Lime Spill at the AB Waste Acid Treatment Plant



Spilled Lime on the Ground at the AB Waste Acid Treatment Plant Lime Unloading Spur



Cleaned Lime Spill at the AB Waste Acid Treatment Plant Lime Unloading Spur

Attachment CWA-4: Root Cause Report for Caustic Water Leak from Building [redacted]

Multi-Media Inspection Report

Radford Army Ammunition Plant
May 16 to 20, 2011

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2. Root Cause(s): Use "5 Whys" until you come up with cause(s) that will PREVENT the problem from recurring. Use multiple columns if any "Why's" have more than 1 answer. You might need to ask "Why" less or more than 5 times, as long as you prevent the problem. You may need to gather more information (page 1) to answer enough "Why's".

Problem:	Caustic water spilled into roadway		
Why?	Caustic water was leaking from 9465		
Why?	Water leaking out hole in building (hole is at point where the wall meets the floor)		
Why?	Water did not drain well from building		
Why?	Building does not have adequate drainage	Water was from wash down	
Why?			
Why?			

3. Action list: actions to PREVENT problem from recurring, generate green tags. for any actions by maintenance. Every cause does NOT need an Action, just the ones that will prevent the problem.

	Who?	Green Tag?
1. Clean up initial spill (Complete)	Operations/Maintenance	y / n
2. Check area in 24 hours to ensure no additional clean up is needed	[redacted]	y / n
3. Remove top layer of soil to ensure all caustic is removed	Operations	y / n
4. Patch hole in building (Complete)	Maintenance	y / n
5. Create better drainage for building	Maintenance	y / n
6.		y / n
7.		y / n

Investigation completed by: [redacted] date: 5-19-11

Attachment CWA-5: Photographs of Cleanup of Caustic Water Leak from Building [redacted]

Multi-Media Inspection Report

Radford Army Ammunition Plant
May 16 to 20, 2011

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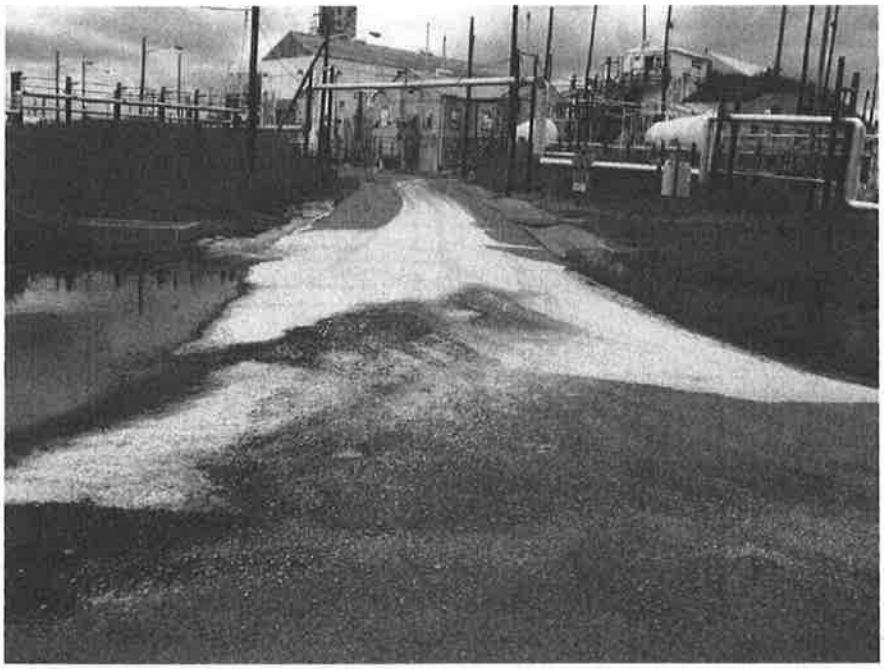
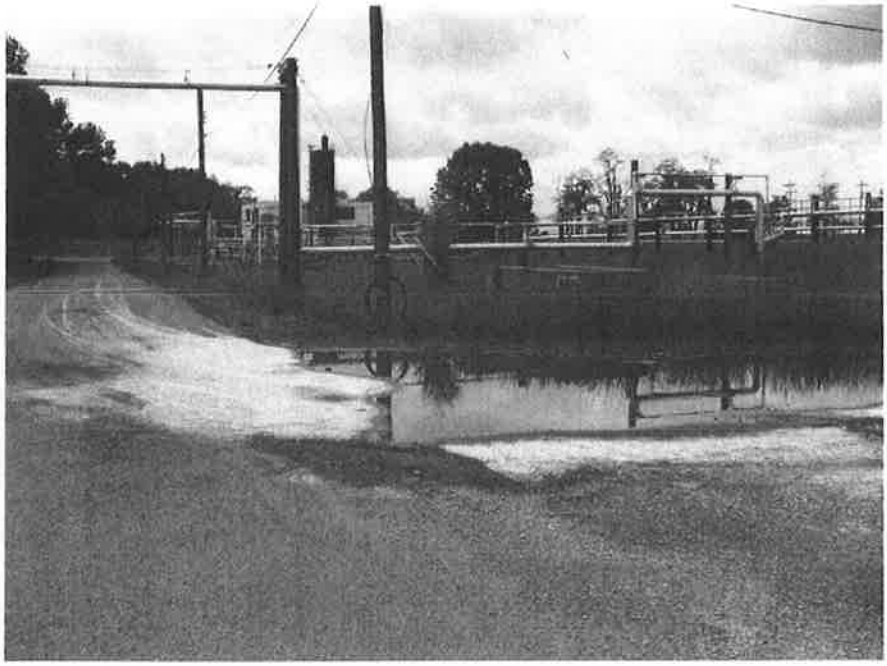
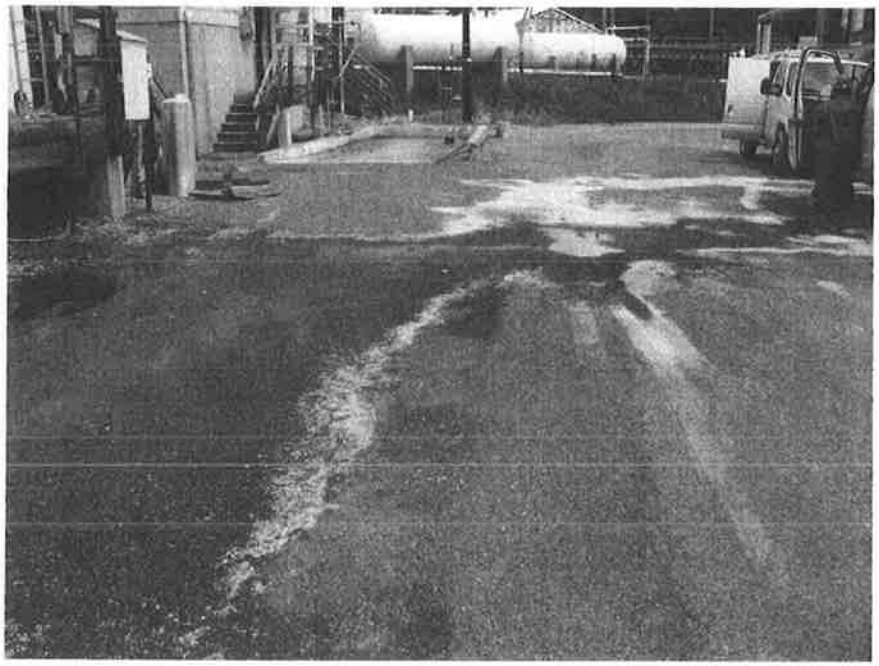


Caustic Soda Ash Spill at the NG2 Area (1 of 2)

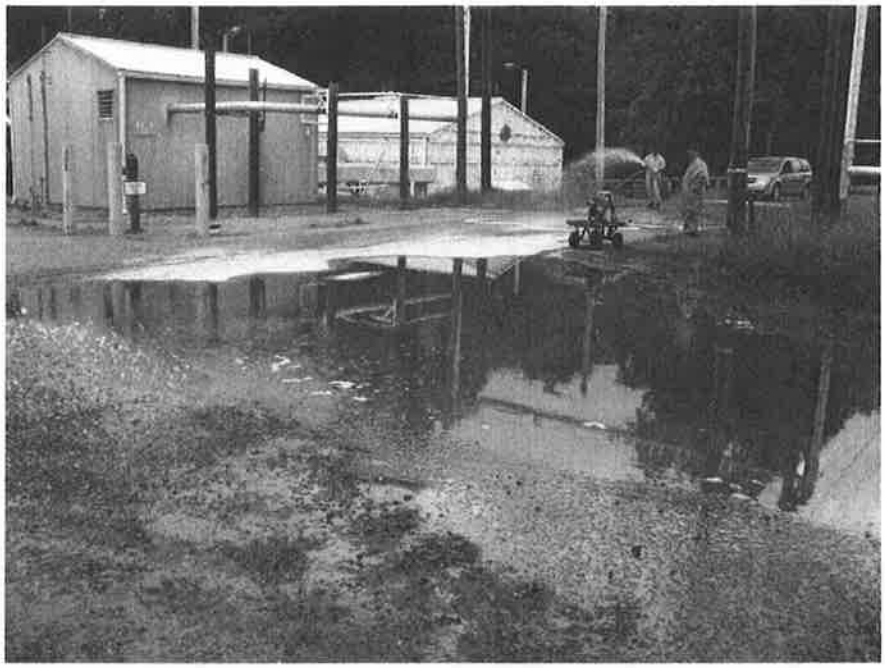


Caustic Soda Ash Spill at the NG2 Area (2 of 2)



Approximate Location where Caustic Soda Ash Spill may have Originated

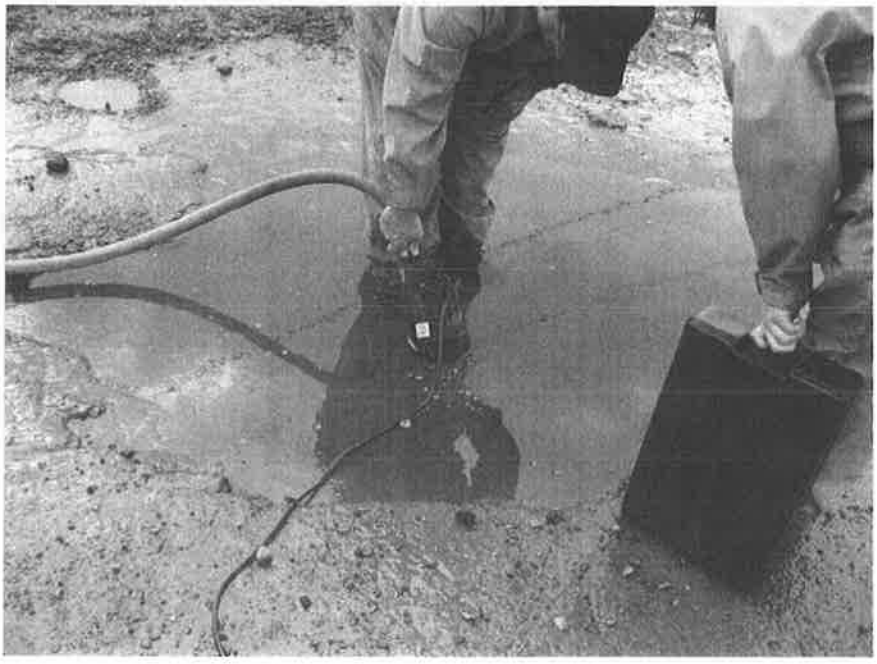
Cleanup of Soda Ash Spill (1 of 6)



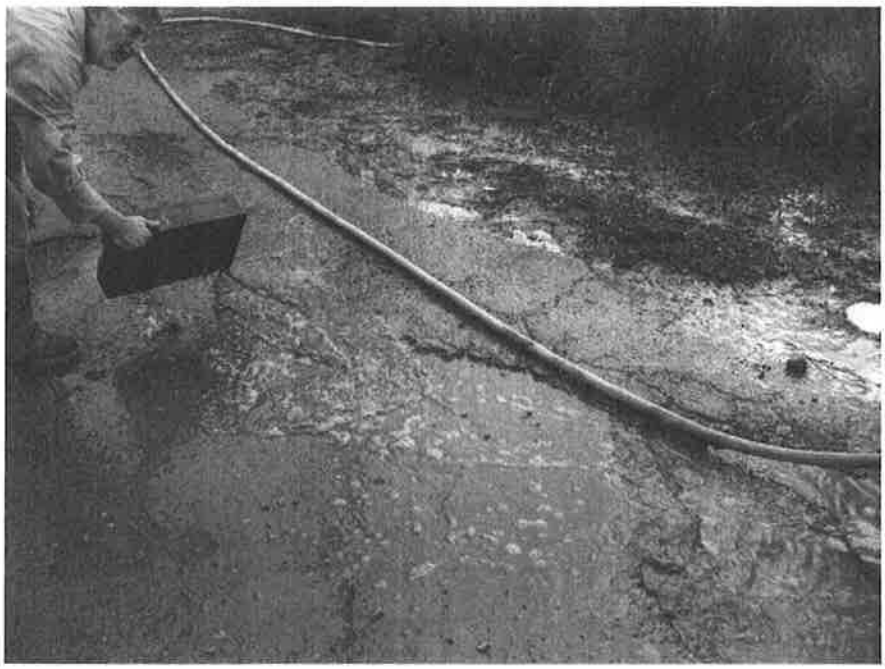
Cleanup of Soda Ash Spill (2 of 6)

Cleanup of Soda Ash Spill (3 of 6)

Cleanup of Soda Ash Spill (4 of 6)



Cleanup of Soda Ash Spill (5 of 6)



Cleanup of Soda Ash Spill (6 of 6)

Attachment SPCC-1: SPCC Field Inspection and Plan Review Checklist

Multi-Media Inspection Report

Radford Army Ammunition Plant
May 16 to 20, 2011

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U.S. ENVIRONMENTAL PROTECTION AGENCY
SPCC FIELD INSPECTION AND PLAN REVIEW CHECKLIST

FOR USE AT ONSHORE FACILITIES (EXCLUDING PRODUCTION)

Overview of the Checklist

This checklist is designed to assist EPA inspectors in conducting a thorough and consistent inspection of a facility's compliance with the Spill Prevention, Control, and Countermeasure (SPCC) rule at 40 CFR part 112. It is a tool to help federal inspectors (or their contractors) record observations during the site visit and review of the SPCC Plan. While the checklist is comprehensive, the inspector should always refer to the SPCC rule in its entirety, the *SPCC Regional Inspector Guidance Document,* and other relevant guidance for evaluating compliance. This checklist must be completed in order for an inspection to count toward an agency measure (i.e., OEM/OECA inspection measures or GPRA).

The checklist is organized according to the SPCC rule. Each item in the checklist identifies the relevant section and paragraph in 40 CFR part 112 where that requirement is stated.

The compliance date for provisions from 2002 SPCC rule amendments that are more stringent than the 1974 rule has been extended until July 1, 2009 (See 72 FR 27443). More stringent provisions from the 2002 amendments are highlighted in *italicized and grayed text*. Where a 2002 amendment changes an entire provision, the 2002 requirements are shown in an *italicized and grayed* box with a heavy border. Where applicable, the alternative 1974 provision is shown in a gray box below the 2002 provision. These provisions are currently in effect for facilities that began operation on or before August 16, 2002.

Sections 112.1 through 112.6 specify the applicability of the rule and requirements for the preparation, implementation, and amendment of SPCC Plans. For these sections, the checklist includes data fields to be completed, as well as several questions with "yes" or "no" answers.

Sections 112.7 through 112.12 specify requirements for spill prevention, control, and countermeasures. For these sections, the inspector needs to evaluate whether the requirement is addressed adequately or inadequately in the SPCC Plan and whether it is implemented adequately in the field (either by field observation or record review). For the SPCC Plan and implementation in the field, if a requirement is addressed adequately, mark the "Yes" box in the appropriate column. If a requirement is not addressed adequately, mark the "No" box. If a requirement does not apply to the particular facility or the question asked is not appropriate for the facility, mark the "NA" box. Discrepancies or descriptions of inspector interpretation of No vs. NA may be documented in the comments box subsequent to each section. If a provision of the rule applies only to the SPCC Plan, the "Field" column is shaded.

Space is provided in each section to record comments. Additional space is available on the comments page at the end of the checklist. Comments should remain factual and support the evaluation of compliance.

Appendix A is a checklist for qualified facility requirements, which are not found in the main checklist. Note: Qualified facilities must meet the rule requirements in §112.7 and other applicable sections, except for deviations for environmental equivalence, impracticability, security, and bulk containers. The requirements for security and bulk containers for qualified facilities are found in §112.6(c) and (d).

Appendix B is for recording information about containers and other locations at the facility that require secondary containment.

Appendix C is a checklist for documentation of the tests and inspections the facility operator is required to keep with the SPCC Plan.

Appendix D is a checklist for oil removal contingency plans. A contingency plan is required if a facility determines that secondary containment is impracticable as provided in 40 CFR 112.7(d).

U.S. ENVIRONMENTAL PROTECTION AGENCY
SPCC FIELD INSPECTION AND PLAN REVIEW CHECKLIS

FOR USE AT ONSHORE FACILITIES (EXCLUDING PRODUCTION)

FACILITY INFORMATION			
FACILITY NAME: Radford Army Ammunition Plant (RAAP)			
LAT:	LONG:	Section/Township/Range:	
ADDRESS:			
CITY: Radford	STATE: VA	ZIP: 24143	COUNTY:
TELEPHONE: 540-731-5776	FACILITY REPRESENTATIVE NAME:		
OWNER NAME: U.S. Army			
OWNER ADDRESS:			
CITY:	STATE:	ZIP:	
OWNER CONTACT PERSON:			
TELEPHONE:	FAX:	EMAIL:	
FACILITY OPERATOR NAME (IF DIFFERENT FROM OWNER – IF NOT, PRINT "SAME"): Alliant Techsystems			
OPERATOR ADDRESS: ATK Energetic Systems, P.O. Box 1			
CITY: Radford	STATE: VA	ZIP: 24143	
TELEPHONE: 540-639-6658	OPERATOR CONTACT PERSON: [redacted]		
FACILITY TYPE: Ammunition Plant		NAICS CODE:	
HOURS PER DAY FACILITY ATTENDED:	TOTAL FACILITY CAPACITY:		
TYPE(S) OF OIL STORED: Diesel, Used Oil			
LOCATED IN INDIAN COUNTRY? ☐ YES ☒ NO RESERVATION NAME:			

INSPECTION INFORMATION		
INSPECTION DATE: 5/17-/11	TIME:	INSPECTION NUMBER:
LEAD INSPECTOR: Jose Jimenez		
OTHER INSPECTOR(S):		

INSPECTOR ACKNOWLEDGMENT	
I performed an SPCC inspection at the facility specified above.	
INSPECTOR SIGNATURE:	DATE:

FACILITY RESPONSE PLAN (FRP) APPLICABILITY
A non-transportation related onshore facility is required to prepare and implement an FRP as outlined in 40 CFR 112.20 if:

☐ The facility transfers oil over water to or from vessels and has a total oil storage capacity greater than or equal to 42,000 gallons, **OR** No

The facility has a total oil storage capacity of at least 1 million gallons, and at least one of the following is true: No

- ☐ The facility does not have secondary containment sufficiently large to contain the capacity of the largest aboveground tank plus sufficient freeboard for precipitation.
- ☐ The facility is located at a distance such that a discharge could cause injury to fish and wildlife and sensitive environments.
- ☐ The facility is located such that a discharge would shut down a public drinking water intake.
- ☐ The facility has had a reportable discharge greater than or equal to 10,000 gallons in the past 5 years.

Facility has FRP: ☐ Yes ☐ No ☑ Not Required	FRP Number:

Facility has a completed and signed copy of Appendix D, Attachment C-II,

"Certification of the Applicability of the Substantial Harm Criteria." ☑ Yes ☐ No

Comments:

Done in Jan/2010

SPCC GENERAL APPLICABILITY—40 CFR 112.1

IS THE FACILITY REGULATED UNDER 40 CFR part 112?	
The completely buried oil storage capacity is over 42,000 gallons, **OR** the aggregate aboveground oil storage capacity is over 1,320 gallons **ND**	☑ Yes ☐ No
The facility is a non-transportation-related facility engaged in drilling, producing, gathering, storing, processing, refining, transferring, distributing, using, or consuming oil and oil products, which due to its location could reasonably be expected to discharge oil into or upon the navigable waters of the United States (as defined in 40 CFR 110.1).	☑ Yes ☐ No

AFFECTED WATERWAY(S):	DISTANCE:
Neuse River	≈ 1/2 miles

PATH:

Note: The following storage capacity is not considered in determining applicability of SPCC requirements:

- *Completely buried tanks subject to all the technical requirements of 40 CFR part 280 or a state program approved under 40 CFR part 281.*
- *Equipment subject to the authority of the U.S. Department of Transportation, U.S. Department of the Interior, or Minerals Management Service, as defined in Memoranda of Understanding dated November 24, 1971, and November 8, 1993.*
- *Any facility or part thereof used exclusively for wastewater treatment (production, recovery or recycling of oil is not considered wastewater treatment).*
- *Containers smaller than 55 gallons.*
- *Permanently closed containers.*
- *Motive power containers*

Does the facility have an SPCC Plan? ☑ Yes ☐ No

Comments:

SPCC Qualified Facility APPLICABILITY—40 CFR 112.3(g) *[2006 Rule Provision]*

112.3(g)(1)	The aggregate aboveground storage capacity is 10,000 gallons or less AND	☐ Yes ☑ No
112.3(g)(2)	The facility has had no single discharge as described in §112.1(b) exceeding 1,000 U.S. gallons, OR the facility has had no two discharges as described in §112.1(b) exceeding 42 U.S. gallons within any twelve-month period in the three years prior to the SPCC Plan self-certification date, or since becoming subject to the rule if the facility has been in operation for less than three years. (Note: Oil discharges that result from natural disasters, acts of war, or terrorism are not included in this qualification determination.)	☐ Yes ☐ No

IF YES TO BOTH OF THE ABOVE, THEN THE FACILITY IS CONSIDERED A QUALIFIED FACILITY: **Complete relevant sections of this checklist and Appendix A.**

REQUIREMENTS FOR PREPARATION AND IMPLEMENTATION OF A SPCC PLAN—40 CFR 112.3

Date facility began operations: 1941

Date of initial SPCC Plan preparation: | Current Plan version (date/number): Jan 2009

112.3(a), (c)	For facilities (excluding farms) in operation prior to August 16, 2002, Plan amended to reflect 2002 SPCC requirements and changes implemented by July 1, 2009	☐ Yes ☐ No ☐ NA
	For facilities (excluding farms) beginning operation between August 17, 2002, and July 1, 2009, Plan prepared and fully implemented by July 1, 2009	☐ Yes ☐ No ☐ NA
112.3(b), (c)	For facilities beginning operation after July 1, 2009, Plan prepared and fully implemented before beginning operations	☐ Yes ☐ No ☑ NA

112.3(d) *[2002 Rule Requirement] [Except for self-certified Plans]*

Professional Engineer certification includes statement that the PE attests:

- *PE is familiar with the requirements of 40 CFR part 112* — ☑ Yes ☐ No ☐ NA
- *PE or agent has visited and examined the facility* — ☐ Yes ☑ No ☐
- *Plan is prepared in accordance with good engineering practice including consideration of applicable industry standards and the requirements of 40 CFR part 112* — ☑ Yes ☐ No ☐ NA
- *Procedures for required inspections and testing have been established* — ☑ Yes ☐ No ☐ NA
- *Plan is adequate for the facility* — ☐ Yes ☐ No ☐ NA

[Requirement for facilities that began operation on or before August 16, 2002] [Except for self-certified Plans]

Plans should include evidence that the PE:

- Has examined the facility — ☑ Yes ☐ No ☐ NA
- Is familiar with the provisions of this part — ☐ Yes ☑ No ☐ NA
- Attests that the SPCC that Plan has been prepared in accordance with good engineering practices — ☐ Yes ☐ No ☐ NA

PE Name: Andrew E. Bassett | License No.: 43711 | State: VA | Date of certification: 1/23/09

112.3(e) *[2002 Rule Requirement]*

Plan available onsite if facility is attended at least 4 hours per day (If facility is unattended, please note nearest field office contact information in comments section below) — ☐ Yes ☐ No ☑ NA

[Interim requirement for facilities that began operation on or before August 16, 2002]

Plan available onsite if facility is attended at least 8 hours per day (If facility is unattended, please note nearest field office contact information in comments section below) — ☑ Yes ☐ No ☐ NA

Comments:

AMENDMENT OF SPCC PLAN BY REGIONAL ADMINISTRATOR (RA)—40 CFR 112.4

112.4(a)	Has the facility discharged more than 1,000 gallons of oil in a single reportable discharge or more than 42 gallons in each of two reportable discharges in any 12-month period (see 40 CFR part 110)? Note: A reportable discharge is a discharge as described in §112.1(b).	☐ Yes ☐ No
	• If yes, was information submitted to the RA as required in §112.4(a)?	☐ Yes ☐ No ☐ NA
	• Date(s) of reportable discharges(s):	
	• Were the discharges reported to the NRC?	☐ Yes ☐ No
112.4(d), (e)	Have changes required by the RA been implemented in the Plan and/or facility?	☐ Yes ☐ No ☐ NA

Comments:

AMENDMENT OF SPCC PLAN BY THE OWNER OR OPERATOR—40 CFR 112.5

112.5(a)	Has there been a change at the facility that materially affects the potential for a discharge?	☐ Yes ☐ No
	If yes, was the Plan amended within six months of the change?	☐ Yes ☐ No
112.5(b)	Review and evaluation of the Plan completed at least once every 5 years?	☐ Yes ☐ No ☐ NA
	Following Plan review, and if amendment was required, was Plan amended within six months to include more effective prevention and control technology, if available?	☐ Yes ☐ No ☐ NA
	[2002 Rule Requirement]	
	Amendments implemented within six months of any Plan amendment?	☐ Yes ☐ No ☐ NA
	Plan review and evaluation documented in Plan?	☐ Yes ☐ No ☐ NA
112.5(c)	Professional Engineer certification of any technical Plan amendments in accordance with §112.3(d) *[Except for self-certified Plans]*	☐ Yes ☐ No ☐ NA

Name:	License No.:	State:	Date of certification:
Reason for amendment:			
Amendments implemented within six months of any Plan amendment			☐ Yes ☐ No ☐ NA

Comments:

GENERAL SPCC REQUIREMENTS—40 CFR 112.7		PLAN	FIELD
Management approval at a level of authority to commit the necessary resources to fully implement the Plan		☑ Yes ☐ No	
Name: K. D. Holiday / Antonio Munoz	Title: Vice President/Lt. Co.	Date: Jan/5/10 Jan/6/10	
Plan follows sequence of the rule or provides a cross-reference of requirements in the Plan and the rule		☐ Yes ☐ No	
If Plan calls for facilities, procedures, methods, or equipment not yet fully operational, details of their installation and start-up are discussed *(Note: Relevant for inspection evaluation and testing baselines.)*		☐ Yes ☐ No ☐ NA	
112.7(a)(2)	If there are deviations from the requirements of the rule, the Plan states reasons for nonconformance	☐ Yes ☐ No ☐ NA	
	Alternative measures described in detail and provide equivalent environmental protection (Note: Inspector should document if the environmental equivalence is implemented in the field)	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
Describe each deviation and reasons for nonconformance			

112.7(a)(3)	*[2002 Rule Requirement]* *Plan includes diagram with location and contents of all regulated containers (including completely buried tanks otherwise exempt from the SPCC requirements), transfer stations, and connecting pipes (Note in comments any discrepancies between the diagram and what is observed in the field)*	☑ Yes ☐ No	☐ Yes ☐ No
112.7(a)(3)	*Plan addresses each of the following:*		
	(i) For each container, type of oil and storage capacity (see Appendix B)	☐ Yes ☐ No	☐ Yes ☐ No
	(ii) Discharge prevention measures, including procedures for routine handling of products	☐ Yes ☐ No	☐ Yes ☐ No
	(iii) Discharge or drainage controls, such as secondary containment around containers, and other structures, equipment, and procedures for the control of a discharge	☐ Yes ☐ No	☐ Yes ☐ No
	(iv) Countermeasures for discharge discovery, response, and cleanup (both facility's and contractor's resources)	☐ Yes ☐ No	☐ Yes ☐ No
	(v) Methods of disposal of recovered materials in accordance with applicable legal requirements - Needs more information.	☐ Yes ☐ No	
	(vi) Contact list and phone numbers for the facility response coordinator, National Response Center, cleanup contractors contracted to respond to a discharge, and all Federal, State, and local agencies who must be contacted in the case of a discharge as described in §112.1(b)	☐ Yes ☐ No ☐ NA	
*	*[2002 Rule Requirement]*		
112.7(a)(4)	*Plan includes information and procedures that enable a person reporting a discharge as described in §112.1(b) to relate information on the exact address or location and phone number of the facility; the date and time of the discharge; the type of material discharged; estimates of the total quantity discharged; estimates of the quantity discharged as described in §112.1(b); the source of the discharge; a description of all affected media; the cause of the discharge; any damages or injuries caused by the discharge; actions being used to stop, remove, and mitigate the effects of the discharge; whether an evacuation may be needed; and the names of individuals and/or organizations who have also been contacted (Not required if a facility has an FRP)*	☐ Yes ☑ No ☐ NA	
	[2002 Rule Requirement]		
112.7(a)(5)	*Plan organized so that portions describing procedures to be used when a discharge occurs will be readily usable in an emergency (Not required if a facility has an FRP)*	☐ Yes ☐ No ☐ NA	

GENERAL SPCC REQUIREMENTS—40 CFR 112.7		PLAN	FIELD
112.7(b)	Plan includes a prediction of the direction, rate of flow, and total quantity of oil that could be discharged for each type of major equipment failure where experience indicates a reasonable potential for equipment failure	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
112.7(c)	Appropriate containment and/or diversionary structures or equipment provided to prevent a discharge as described in §112.1(b), except as provided in 112.7(k) of this section for qualified operational equipment, before cleanup occurs. *The entire containment system, including walls and floors, are capable of containing oil and are constructed to prevent escape of a discharge from the containment system before cleanup occurs* (1) **For onshore facilities**, one of the following or its equivalent: (i) dikes, berms, or retaining walls sufficiently impervious to contain oil, (ii) curbing, (iii) culverting, gutters or other drainage systems, (iv) weirs, booms or other barriers, (v) spill diversion ponds, (vi) retention ponds, or (vii) sorbent materials (See Appendix B)	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
112.7(d)	Determination(s) of impracticability of secondary containment	☐ Yes ☐ No	
If YES:	Is the impracticability of secondary containment clearly demonstrated?	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
	[2002 Rule Requirement] *For bulk storage containers, periodic integrity testing of containers and leak testing of the valves and piping associated with the container is conducted*	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
	Unless facility has FRP: (1) Contingency Plan following 40 CFR part 109 (see Appendix D checklist) is provided **AND**	☐ Yes ☐ No ☐ NA	
	(2) Written commitment of manpower, equipment, and materials required to control and remove any quantity of oil discharged that may be harmful	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA

Comments concerning impracticability determination(s) for secondary containment:

Other comments:

TXs. No information was provided about sec. cont. or impracticability determination. See Section 112.7(k)

GENERAL SPCC REQUIREMENTS—40 CFR 112.7		PLAN	FIELD
112.7(e)	Inspections and tests conducted in accordance with written procedures	☐ Yes ☐ No	☐ Yes ☐ N
	Record of inspections or tests signed by supervisor or inspector and kept with Plan for at least 3 years (see Appendix C checklist)	☐ Yes ☐ No	☐ ☐ No
112.7(f)	**Personnel, training, and oil discharge prevention procedures [1973 Rule: 112.7(e)(10)]**		
	(1) Training of oil-handling personnel in operation and maintenance of equipment to prevent discharges; discharge procedure protocols; applicable pollution control laws, rules and regulations; *general facility operations; and contents of SPCC Plan*	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
	(2) Person designated as accountable for discharge prevention at the facility [redacted] has not received outside training but person indicates that he has been training.	☐ Yes ☒ No ☐ NA	☐ Yes ☐ No ☐ NA
	[2002 Rule Requirement] (3) *Discharge prevention briefings conducted at least once a year for oil handling personnel*	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
	[Interim requirement for facilities that began operation on or before August 16, 2002] (3) Spill prevention briefings scheduled and conducted at intervals frequent enough to assure adequate understanding of the SPCC Plan for that facility.	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
112.7(g)	**Security (excluding production facilities) [1973 Rule: 112.7(e)(9)]** [Except self-certified Plans]		
	(1) Facility fully fenced and gates are locked and/or guarded when facility is unattended	☒ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
	(2) Master flow and drain valves and any other valves permitting direct outward flow of the container's contents to the surface have adequate security measures so that they remain in the closed position when in non-operating or non-standby status	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
	(3) Pump starter controls locked in "off" position and accessible only to authorized personnel when in non-operating/non-standby status	☐ Yes ☐ No ☐ NA	☐ Y ☐ ☐
	(4) Loading/unloading connections of oil pipelines or facility piping securely capped or blank-flanged when not in service or when in standby service for an extended period of time, including piping that is emptied of liquid content either by draining or by inert gas pressure	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
	(5) Adequate facility lighting commensurate with the type and location of the facility that assists in the discovery of discharges occurring during hours of darkness and to prevent discharges occurring through acts of vandalism	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
Comments:			
112.7(h)	**Tank car and tank truck loading/unloading rack [1973 Rule: 112.7(4)]** Note that a tank car/truck loading/unloading rack must be present for §112.7(h) to apply		
	(1) Does loading/unloading area (the location adjacent to the **loading or unloading rack**) drainage flow to catchment basin or treatment facility? ☐ Yes ☐ No • If NO, quick drainage system used	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
	Containment system holds capacity of the largest single compartment of a tank car/truck loaded/unloaded at the facility	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
	(2) Physical barriers, warning signs, wheel chocks, or vehicle brake interlock system in loading/unloading areas (the location adjacent to the **loading or unloading rack**) to prevent vehicles from departing before complete disconnection of flexible or fixed oil transfer lines	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
	(3) Lower-most drains and all outlets on tank cars/trucks inspected prior to filling/departure, and, if necessary ensure that they are tightened, adjusted, or replaced to prevent liquid discharge while in transit	☐ Yes ☐ No ☐ NA	☐ ☐ No ☐ NA

GENERAL SPCC REQUIREMENTS—40 CFR 112.7		PLAN	FIELD
Comments:			
112.7(i)	**Brittle fracture evaluation of field-constructed aboveground containers** *[2002 Rule Requirement]*		
	Brittle fracture evaluation is conducted after tank repair/alteration/change in service that might affect the risk of a discharge or after a discharge/failure due to brittle fracture or other catastrophe, and appropriate action taken as necessary (for field-constructed aboveground containers)	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
112.7(j)	**State rules, regulations and guidelines and conformance with applicable sections of 40 CFR part 112 [1973 Rule: 112.7(e)]**		
	Discussion of conformance with applicable more stringent State rules, regulations, and guidelines and other effective discharge prevention and containment procedures listed in 40 CFR part 112	☐ Yes ☐ No ☐ NA	
112.7(k)	**Qualified oil-filled operational equipment secondary containment option** *[2006 Rule Amendment]*		
(1)	Has a single reportable discharge as described in §112.1(b) from any oil-filled operational equipment exceeding 1,000 U.S. gallons occurred within any 12-month period within the three years prior to Plan certification date?	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
	Have two reportable discharges as described in §112.1(b) from any oil-filled operational equipment each exceeding 42 U.S. gallons occurred within any 12-month period within the three years prior to Plan certification date?	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
	• If YES for either, secondary containment is required. (Note: Oil discharges that result from natural disasters, acts of war, or terrorism are not included in this qualification determination.) See 112.7(c).		
If NO and no secondary containment provided	(2)(i) Facility procedure for inspections/monitoring program is established and documented	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
	(2)(ii) Unless facility has FRP: Contingency plan following 40 CFR part 109 (see Appendix D checklist) is provided **AND**	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
	Written commitment of manpower, equipment, and materials required to control and remove any quantity of oil discharged that may be harmful	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
Comments: No information provided to TXs.			

ONSHORE FACILITIES (EXCLUDING PRODUCTION)—112.8/112.12	PLAN	FIELD
112.8(b)/112.12(b) Facility Drainage [1973 Rule: 112.7(e)(1)]		
(1) Drainage from diked storage areas is restrained by valves, **OR** manually activated pumps or ejectors are used and the condition of the accumulation is inspected prior to discharge to ensure no oil will be discharged.	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
(2) Valves from diked storage areas are manual, open-and-closed design (not flapper-type drain valves)	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
If drainage is released directly to a watercourse and not into an onsite wastewater treatment plant, storm water inspected per §112.8(c)(3)(ii), (iii), and (iv) or §112.12(c)(3)(ii), (iii), and (iv)	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
(3) Drainage from undiked areas with a potential for discharge designed to flow into ponds, lagoons, or catchment basins to retain oil or return it to facility. Catchment basin located away from flood areas.*	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
(4) If facility drainage not engineered as in (b)(3), the facility is equipped with a diversion system to retain oil in the facility in the event of a discharge.*	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA

ONSHORE FACILITIES (EXCLUDING PRODUCTION)—112.8/112.12	PLAN	FIELD
(5) Are facility drainage waters continuously treated in more than one treatment unit and pump transfer is needed? ☐ Yes ☐ No If YES:		
• Two "lift" pumps available and at least one permanently installed	☐ Yes ☐ No	☐ Yes ☐ No
• Facility drainage systems engineered to prevent a discharge as described in §112.1(b) in the case of equipment failure or human error	☐ Yes ☐ No	☐ Yes ☐ No
Comments:		
* These provisions apply only when a facility drainage system is used for containment; otherwise mark NA. .		
112.8(c)/112.12(c) Bulk Storage Containers [1973 Rule: 112.7(e)(2)] If bulk storage containers are not present, mark this section Non Applicable (NA). If present, complete this section and Appendix B of this checklist)		
(1) Containers compatible with material stored and conditions of storage such as pressure and temperature	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
(2) Except for mobile refuelers, construct secondary containment to hold capacity of largest container and sufficient freeboard for precipitation	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
Diked areas sufficiently impervious to contain discharged oil	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
Alternatively, any discharge to a drainage trench system will be safely confined in a facility catchment basin or holding pond	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
(3) Is there drainage of uncontaminated rainwater from diked areas into a storm drain or open watercourse? ☐ Yes ☐ No If YES:		
(i) Bypass valve normally sealed closed	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
(ii) Retained rainwater is inspected to ensure that its presence will not cause a discharge as described in §112.1(b)	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
(iii) Bypass valve opened and resealed under responsible supervision	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
(iv) Adequate records of drainage are kept; for example, records required under permits issued in accordance with 40 CFR 122.41(j)(2) and (m)(3)	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
(4) For completely buried metallic tanks installed on or after January 10, 1974 (if not exempt from SPCC regulation because subject to all of the technical requirements of 40 CFR part 280 or 281):		
• Corrosion protection with coatings or cathodic protection compatible with local soil conditions	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
• Regular leak testing conducted	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
(5) Partially buried or bunkered metallic tanks protected from corrosion with coatings or cathodic protection compatible with local soil conditions	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA

ONSHORE FACILITIES (EXCLUDING PRODUCTION)—112.8/112.12		PLAN	FIELD
Comments:			
(6) [Except for self-certified Plans]	*[2002 Rule Requirement]* *Aboveground containers integrity tested by visual inspection and another technique such as hydrostatic testing, radiographic testing, ultrasonic testing, acoustic emissions testing, or another system of non-destructive shell testing on a regular schedule and whenever material repairs are made*	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
	[Interim requirement for facilities that began operation on or before August 16, 2002] Aboveground tanks integrity tested using such techniques as hydrostatic testing, visual inspection or a system of non-destructive shell thickness testing.	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
	Container supports and foundations regularly inspected	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
	Outside of containers frequently inspected for signs of deterioration, discharges, or accumulation of oil inside diked areas	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
	Records of inspections and tests maintained	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
(7)	Leakage through defective internal heating coils controlled: • Steam returns and exhaust lines from internal heating coils that discharge into an open water source are monitored for contamination, OR • Steam returns and exhaust lines pass through a settling tank, skimmer, or other separation or retention system	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
(8)	Each container is equipped with at least one of the following for liquid level sensing: (i) high liquid level alarms with an audible or visual signal at a constantly attended operation or surveillance station, or audible air vent in smaller facilities, (ii) high liquid level pump cutoff devices set to stop flow at a predetermined container content level, (iii) direct audible or code signal communication between container gauger and pumping station, (iv) fast response system (such as digital computers, telepulse, or direct vision gauges) *and a person is present to monitor gauges and the overall filling of bulk storage containers.* (v) liquid level sensing devices regularly tested to ensure proper operation	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
(9)	Effluent treatment facilities observed frequently enough to detect possible system upsets that could cause a discharge as described in §112.1(b)	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
(10)	Visible discharges which result in a loss of oil from the container, including but not limited to seams, gaskets, piping, pumps, valves, rivets, and bolts are promptly corrected and oil in diked areas is promptly removed	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
(11)	Mobile or portable containers positioned to prevent a discharge to prevent a discharge as described in §112.1(b).	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
	Mobile or portable containers (excluding mobile refuelers) have secondary containment with sufficient capacity to contain the largest single compartment or container *and sufficient freeboard to contain precipitation*	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA

ONSHORE FACILITIES (EXCLUDING PRODUCTION)—112.8/112.12		PLAN	FIELD
Comments:			
112.8(d)/112.12(d) Facility transfer operations, pumping, and facility process [1973 Rule: 112.7(e)(3)]			
(1)	*[2002 Rule Requirement]* *Buried piping installed or replaced on or after August 16, 2002 has protective wrapping or coating*	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
	Buried piping installed or replaced on or after August 16, 2002 is cathodically protected or otherwise satisfies corrosion protection standards for piping in 40 CFR part 280 or 281	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
	[Interim requirement for facilities that began operation on or before August 16, 2002] Buried piping has protective wrapping or coating and is cathodically protected if soil conditions warrant.	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
	Exposed buried piping is inspected for deterioration and corrosion damage is examined and corrected	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
(2)	Piping terminal connection at the transfer point is marked as to origin and capped or blank-flanged when not in service or in standby service for an extended time	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
(3)	Pipe supports are properly designed to minimize abrasion and corrosion and allow for expansion and contraction	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ N
(4)	Aboveground valves, piping, and appurtenances such as flange joints, expansion joints, valve glands and bodies, catch pans, pipeline supports, locking of valves, and metal surfaces are inspected regularly	☐ Yes ☐ No ☐ NA	☐ Y ☐ No ☐ NA
	[2002 Rule Requirement] *Integrity and leak testing conducted on buried piping at time of installation, modification, construction, relocation, or replacement*	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA
(5)	Vehicles warned so that no vehicle endangers aboveground piping *and other oil transfer operations*	☐ Yes ☐ No ☐ NA	☐ Yes ☐ No ☐ NA

ONSHORE FACILITIES (EXCLUDING PRODUCTION)—112.8/112.12	PLAN	FIELD

Comments:

ADDITIONAL COMMENTS	
Rule Provision	Comment

PHOTO DOCUMENTATION LOG	
Photo Number	Description (include date, location, and direction)

Qualified Facilities Checklist

Appendix A: Qualified Facility Plan Requirements

mplete this Appendix only if the facility is a "qualified facility" as defined in §112.3(g). A qualified facility's Plan, whether certified by a E or self-certified, must comply with all of the applicable requirements of §112.7 and subparts B and C of 40 CFR Part 112 referenced earlier in this checklist.

112.6–Qualified Facility Plan Requirements	Yes	No	NA
(a) Did the owner/operator of the qualified facility self-certify the SPCC Plan? *If **NO**, see requirements for 112.3(d) above. If **YES**, did the owner/operator certify in the Plan that:*			
(1) He or she is familiar with the requirements of 40 CFR part 112.			
(2) He or she has visited and examined the facility.			
(3) The Plan has been prepared in accordance with accepted and sound industry practices and standards.			
(4) Procedures for required inspections and testing have been established.			
(5) The Plan is being fully implemented.			
(6) The facility meets the qualification criteria set forth under §112.3 (g).			
(7) The Plan does not deviate from any requirements as allowed by §112.7(a)(2) and 112.7(d), except as described under §112.6(c).			
(8) Management has given full approval of the Plan and necessary resources have been committed for the Plan's full implementation.			
(b) Did the owner/operator self-certify any of the Plan's technical amendments?			
If **YES**: Is the certification of any technical amendments in accordance with the provisions above (§112.6(a))?			
)(1) and (d)(1) Environmental Equivalence. For each alternative measure allowed under §112.7(a)(2), the Plan is companied by a written statement by a PE that states the reason for nonconformance and describes the alternative method and how it provides equivalent environmental protection in accordance with §112.7(a)(2).			
(c)(2) and (d)(1) Impracticability. For each determination of impracticability of secondary containment pursuant to §112.7(d), the Plan clearly explains why secondary containment measures are not practicable at this facility and provides the alternative measures required in §112.7(d) in lieu of secondary containment.			
(c)(3) Security. The Plan contains one of the following: (i) The Plan complies with requirements under §112.7(g), **OR** (ii) The Plan complies with the requirements under §112.6(c)(3)(ii): Plan describes how the owner/operator secures and and controls access to the oil handling, processing and storage areas; secures master flow and drain valves; prevents unauthorized access to starter controls on oil pumps; secures out-of-service and loading/unloading connections of oil pipelines; addresses the appropriateness of security lighting to both prevent acts of vandalism and assist in the discovery of oil discharges.			
(c)(4) Bulk Storage Containers. The Plan contains one of the following: (i) The Plan complies with the requirements under §§112.8(c)(6) or 112.12(c)(6), as applicable; **OR** (ii) The Plan complies with the requirements under §112.6(c)(4)(ii): • Aboveground containers, supports and foundations tested for integrity on a regular schedule and whenever repairs are made. • Appropriate qualifications for personnel performing tests and inspections have been determined in accordance with industry standards. • The frequency and type of testing and inspections have been determined in accordance with industry standards, taking into account container size, configuration and design. • Container supports and foundations regularly inspected • Outside of containers frequently inspected for signs of deterioration, discharges, or accumulation of oil inside diked areas • Records of inspections and tests maintained			
(d) Did a PE certify a portion of a qualified facility's self-certified Plan? *If **YES**, the PE must certify in the Plan that:*			
(d)(2) (i) He/she is familiar with the requirements of 40 CFR Part 112. (ii) He/she or a representative agent has visited and examined the facility. (iii) The alternative method of environmental equivalence in accordance with §112.7(a)(2) or the determination of impracticability and alternative measures in accordance with §112.7(d) is consistent with good engineering practice, including consideration of applicable industry standards, and with the requirements of 40 CFR Part 112.			

(b)(1) If a PE certified a portion of the Plan, did a PE certify any technical amendments that affect this portion of the Plan?			
Comments:			

SPCC FIELD INSPECTION AND PLAN REVIEW TABLE

ppendix B: Documentation of Field Observations for Containers and Associated Requirements

nspectors should use this table to document observations of containers as needed.

Containers and Piping

Check containers for leaks, specifically looking for: drip marks, discoloration of tanks, puddles containing spilled or leaked material, corrosion, cracks, and localized dead vegetation, and standards/specifications of construction.

Check foundation for: cracks, discoloration, puddles containing spilled or leaked material, settling, gaps between container and foundation, and damage caused by vegetation roots.

Check piping for: droplets of stored material, discoloration, corrosion, bowing of pipe between supports, evidence of stored material seepage from valves or seals, and localized dead vegetation. (Document in comments section of §112.8(d) / §112.12(d).)

Secondary Containment (Active and Passive)

Check secondary containment for: containment system (including walls and floor) ability to contain oil such that oil will not escape the containment system before cleanup occurs, proper sizing, cracks, discoloration, presence of spilled or leaked material (standing liquid), erosion, corrosion, and valve conditions.

Check dike or berm systems for: level of precipitation in dike/available capacity, operational status of drainage valves (closed), dike or berm impermeability, debris, erosion, impermeability of the earthen floor/walls of diked area, and location/status of pipes, inlets, drainage around and beneath containers, presence of oil discharges within diked areas.

Check retention and drainage ponds for: erosion, available capacity, and presence of spilled or leaked material, debris, and stressed vegetation.

Check active measures (countermeasures) for: amount indicated in plan is available and appropriate; deployment procedures are realistic; material is located so that they are readily available; efficacy of discharge detection; availability of personnel and training, appropriateness of measures to prevent a discharge as described in §112.1(b).

Container ID/ General Condition	Storage Capacity and Type of Oil	Type of Containment/ Drainage Control	Overfill Protection and Testing & Inspections

SPCC INSPECTION AND TESTING CHECKLIST

Appendix C: Required Documentation of Tests and Inspections

Records of inspections and tests required by 40 CFR part 112 signed by the appropriate supervisor or inspector must be kept with th SPCC Plan for a period of three years. Records of inspections and tests conducted under usual and customary business practices wil suffice. Documentation of the following inspections and tests should be kept with the SPCC Plan.

Inspection or Test		Documentation		Not Applicable
		Present	Not Present	
112.7--General SPCC Requirements				
[2002 Rule Requirement]				
(d)	*Integrity testing is conducted for bulk storage containers with no secondary containment system and for which an impracticability determination has been made*			
(d)	*Integrity and leak testing of valves and piping associated with bulk storage containers with no secondary containment system and for which an impracticability determination has been made*			
(i)	*Evaluate field-constructed aboveground containers for potential for brittle fracture or other catastrophic failure when the container undergoes a repair, alteration, reconstruction or change in service*			
112.8/112.12--Onshore facilities (excluding production)				
(b)(2)	Storm water released from facility drainage directly to a watercourse is inspected and records of drainage are kept			
(c)(3)(iv)	Rainwater released directly from diked containment areas to a storm drain or open watercourse is inspected and records of drainage are kept			
(c)(4)	Regular leak testing of completely buried metallic storage tanks			
(c)(6)	Aboveground containers tested for integrity on a regular schedule			
(c)(6) schedule.	Aboveground containers, supports and foundations visually inspected on a regular			
(c)(6)	Diked areas inspected for accumulations of oil.			
(c)(8)(v)	Liquid level sensing devices regularly tested to ensure proper operation			
(c)(9)	Effluent treatment facilities are observed frequently enough to detect possible system upsets that could cause a discharge as described in §112.1(b)			
(d)(1)	When buried piping is exposed, it is carefully inspected for deterioration and corrosion			
(d)(4)	Aboveground valves, piping and appurtenances are regularly inspected and the general condition of flange joints, expansion joints, valve glands and bodies, catch pans, pipeline supports, locking of valves, and metal surfaces are assessed			
[2002 Rule Requirement]				
(d)(4)	*Integrity and leak testing of buried piping is conducted at time of installation, modification, construction, relocation or replacement*			
112.6--Qualified Facilities *(Complete this section only if the facility is a "qualified facility" as defined in §112.3(g))*				
(c)(4)(i)	Comply with the requirements under §112.8(c)(6) or §112.12(c)(6) as applicable (see above);			
OR				
(c)(4)(ii)	Aboveground containers inspected and/or tested for integrity on a regular schedule and whenever repairs are made			
	Appropriate qualifications for personnel performing tests and inspections have been determined in accordance with industry standards			
	The frequency and type of testing and inspections have been determined in accordance with industry standards, taking into account container size, configuration and design			

SPCC CONTINGENCY PLAN REVIEW CHECKLIST

^opendix D: 40 CFR Part 109–Criteria for State, Local and Regional Oil Removal Contingency Plans

. a facility makes an impracticability determination for secondary containment in accordance with §112.7(d), it is required to provide an oil spill contingency plan following 40 CFR part 109. An oil spill contingency plan may also be developed as an alternative to general secondary containment for qualified oil filled operational equipment in accordance with §112.7(k).

109.5–Development and implementation criteria for State, local and regional oil removal contingency plans*	Yes	No
(a) Definition of the authorities, responsibilities and duties of all persons, organizations or agencies which are to be involved in planning or directing oil removal operations.		
(b) Establishment of notification procedures for the purpose of early detection and timely notification of an oil discharge including:		
(1) The identification of critical water use areas to facilitate the reporting of and response to oil discharges.		
(2) A current list of names, telephone numbers and addresses of the responsible persons (with alternates) and organizations to be notified when an oil discharge is discovered.		
(3) Provisions for access to a reliable communications system for timely notification of an oil discharge, and the capability of interconnection with the communications systems established under related oil removal contingency plans, particularly State and National plans (e.g., NCP).		
(4) An established, prearranged procedure for requesting assistance during a major disaster or when the situation exceeds the response capability of the State, local or regional authority.		
(c) Provisions to assure that full resource capability is known and can be committed during an oil discharge situation including:		
(1) The identification and inventory of applicable equipment, materials and supplies which are available locally and regionally.		
(2) An estimate of the equipment, materials and supplies that would be required to remove the maximum oil discharge to be anticipated.		
(3) Development of agreements and arrangements in advance of an oil discharge for the acquisition of equipment, materials and supplies to be used in responding to such a discharge.		
(d) Provisions for well defined and specific actions to be taken after discovery and notification of an oil discharge including:		
(1) Specification of an oil discharge response operating team consisting of trained, prepared and available operating personnel.		
(2) Predesignation of a properly qualified oil discharge response coordinator who is charged with the responsibility and delegated commensurate authority for directing and coordinating response operations and who knows how to request assistance from Federal authorities operating under existing national and regional contingency plans.		
(3) A preplanned location for an oil discharge response operations center and a reliable communications system for directing the coordinated overall response operations.		
(4) Provisions for varying degrees of response effort depending on the severity of the oil discharge.		
(5) Specification of the order of priority in which the various water uses are to be protected where more than one water use may be adversely affected as a result of an oil discharge and where response operations may not be adequate to protect all uses.		
(e) Specific and well defined procedures to facilitate recovery of damages and enforcement measures as provided for by State and local statutes and ordinances.		

* The contingency plan should be consistent with all applicable state and local plans, Area Contingency Plans, and the National Contingency Plan (NCP).

Attachment SPCC-2: Weekly Inspection Checklists for Above-Ground Storage Tanks

Multi-Media Inspection Report

Radford Army Ammunition Plant
May 16 to 20, 2011

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DUP 7992 (Rev. Lev. 1, 06/05)

WEEKLY INSPECTION CHECKLIST FOR ABOVEGROUND STORAGE TANKS

Bldg. No. 9467 Tank No. _____ RFA No. 28220 Area: NC-2

Inspector (print name): [redacted] Signature: [redacted]

Date of Inspection: 5/16/11 Time of Inspection: 8:35 Am

Inspection Point	YES	NO	N/A
1. Hazardous Conditions			
a. Tripping hazards in area?		✓	
b. Other potential safety hazards? (i.e ladders or walkways need repair?)		✓	
2. Leak Indicators			
a. Stained or discolored soil around dike?		✓	
b. Leaks from tank, dike, piping systems, tank loading / unloading area, etc.?		✓	
c. Inlet or outlet piping systems showing signs of leakage?		✓	
d. Does standing water in dike have an oily sheen or discoloration?			✓
e. Is there presence of a petroleum odor?		✓	
3. Dike Area and Condition			
a. Is there an excessive accumulation of water in the dike?			✓
b. Are dike drain valves unlocked or unplugged?			✓
c. Any sign of dike damage or deterioration?			
d. Is there presence of any vegetation in dike floor or walls?		✓	
4. Tank Condition			
a. Tank showing any signs of damage or deterioration? (shell, paint blisters or peeling, welds, Fasteners, seams, rust)	✓		
b. Tank foundation showing any signs of damage or deterioration?	✓		
c. Are valves used to fill the tank unlocked?	✓		
d. Are valves or fittings used to drain the tank unlocked or unplugged?	✓	✓	
5. Piping Condition			
a. Any sign of fuel distribution piping damage or deterioration?		✓	
6. Pump Condition			
a. Are oil transfer pumps from tanker unloading area to storage tank in good operating condition?	✓		✓
b. Are pumps leaking?			✓
c. Are oil transfer pumps from storage tank to Powerhouse in good operating condition?			✓
d. Are pumps leaking?			✓

NOTE: Regulated petroleum tanks have no instrumentation to be calibrated.

If any inspection points are checked yes, describe the deficiency and corrective actions taken: Paint Blistering, Bolts Rusting

Supervisor signature and date (only if deficiencies noted): _____

Notes:

1. DO NOT ENTER DIKE AREA around tank without obtaining a confined space entry permit.
2. Report deficiencies to Supervisor immediately. Supervisor must sign this form if deficiencies are noted.
3. Inspections must be made at least once each week (Sunday through Saturday) during normal operations.

DUP 7992 (Rev. Lev. 1, 06/01/05)

WEEKLY INSPECTION CHECKLIST FOR ABOVEGROUND STORAGE TANKS

Bldg. No. 9467 Tank No. ____ RFA No. 28220 Area: NG 2

Inspector (print name): [redacted] Signature: [redacted]

Date of Inspection: 5-8-2011 Time of Inspection: 1535

Inspection Point	YES	NO	N/A
1. Hazardous Conditions			
a. Tripping hazards in area?		✓	
b. Other potential safety hazards? (i.e ladders or walkways need repair?)		✓	
2. Leak Indicators			
a. Stained or discolored soil around dike?		✓	
b. Leaks from tank, dike, piping systems, tank loading / unloading area, etc.?		✓	
c. Inlet or outlet piping systems showing signs of leakage?		✓	
d. Does standing water in dike have an oily sheen or discoloration?		✓	
e. Is there presence of a petroleum odor?		✓	
3. Dike Area and Condition			
a. Is there an excessive accumulation of water in the dike?		✓	
b. Are dike drain valves unlocked or unplugged?		✓	
c. Any sign of dike damage or deterioration?	✓		
d. Is there presence of any vegetation in dike floor or walls?		✓	
4. Tank Condition			
a. Tank showing any signs of damage or deterioration? (shell, paint blisters or peeling, welds, Fasteners, seams, rust)	✓		
b. Tank foundation showing any signs of damage or deterioration?		✓	
c. Are valves used to fill the tank unlocked?	✓		
d. Are valves or fittings used to drain the tank unlocked or unplugged?		✓	
5. Piping Condition			
a. Any sign of fuel distribution piping damage or deterioration?		✓	
6. Pump Condition			
a. Are oil transfer pumps from tanker unloading area to storage tank in good operating condition?			✓
b. Are pumps leaking?			✓
c. Are oil transfer pumps from storage tank to Powerhouse in good operating condition?			✓
d. Are pumps leaking?			✓

NOTE: Regulated petroleum tanks have no instrumentation to be calibrated.
If any inspection points are checked yes, describe the deficiency and corrective actions taken:

3c and 4a - rust
4c - not required.

Supervisor signature and date (only if deficiencies noted): [redacted] 5-8-11

Notes:
1. DO NOT ENTER DIKE AREA around tank without obtaining a confined space entry permit.
2. Report deficiencies to Supervisor immediately. Supervisor must sign this form if deficiencies are noted.
3. Inspections must be made at least once each week (Sunday through Saturday) during normal operations.

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WEEKLY INSPECTION CHECKLIST FOR ABOVEGROUND STORAGE TANKS

Bldg. No. 9487 Tank No. _____ RFA No. 28220 Area: NG2

Inspector (print name): [redacted] Signature: [redacted]

Date of Inspection: 4/24/11 Time of Inspection: 1100

Inspection Point	YES	NO	N/A
1. Hazardous Conditions			
a. Tripping hazards in area?		✓	
b. Other potential safety hazards? (i.e ladders or walkways need repair?)		✓	
2. Leak Indicators			
a. Stained or discolored soil around dike?		✓	
b. Leaks from tank, dike, piping systems, tank loading / unloading area, etc.?		✓	
c. Inlet or outlet piping systems showing signs of leakage?		✓	
d. Does standing water in dike have an oily sheen or discoloration?		✓	
e. Is there presence of a petroleum odor?		✓	
3. Dike Area and Condition			
a. Is there an excessive accumulation of water in the dike?		✓	
b. Are dike drain valves unlocked or unplugged?		✓	
c. Any sign of dike damage or deterioration?		✓	
d. Is there presence of any vegetation in dike floor or walls?		✓	
4. Tank Condition			
a. Tank showing any signs of damage or deterioration? (shell, paint blisters or peeling, welds, Fasteners, seams, rust)	✓		
b. Tank foundation showing any signs of damage or deterioration?	✓		
c. Are valves used to fill the tank unlocked?	✓		
d. Are valves or fittings used to drain the tank unlocked or unplugged?		✓	
5. Piping Condition			
a. Any sign of fuel distribution piping damage or deterioration?	✓		
6. Pump Condition			
a. Are oil transfer pumps from tanker unloading area to storage tank in good operating condition?			✓
b. Are pumps leaking?			
c. Are oil transfer pumps from storage tank to Powerhouse in good operating condition?			
d. Are pumps leaking?			

NOTE: Regulated petroleum tanks have no instrumentation to be calibrated.

If any inspection points are checked yes, describe the deficiency and corrective actions taken: _____

Paint blisters rust

Valves unlocked

Supervisor signature and date (only if deficiencies noted): [redacted] _____

Notes:

1. DO NOT ENTER DIKE AREA around tank without obtaining a confined space entry permit.
2. Report deficiencies to Supervisor immediately. Supervisor must sign this form if deficiencies are noted.
3. Inspections must be made at least once each week (Sunday through Saturday) during normal operations.

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WEEKLY INSPECTION CHECKLIST FOR ABOVEGROUND STORAGE TANKS

Bldg. No. 9467 Tank No. _____ RFA No. 28220 n Area: NG2

Inspector (print name): [redacted] _____ Signature: [redacted] _____

Date of Inspection: 5-1-2011 Time of Inspection: ~1759

Inspection Point	YES	NO	N/A
1. Hazardous Conditions			
a. Tripping hazards in area?		✓	
b. Other potential safety hazards? (i.e ladders or walkways need repair?)		✓	
2. Leak Indicators			
a. Stained or discolored soil around dike?		✓	
b. Leaks from tank, dike, piping systems, tank loading / unloading area, etc.?		✓	
c. Inlet or outlet piping systems showing signs of leakage?		✓	
d. Does standing water in dike have an oily sheen or discoloration?		✓	
e. Is there presence of a petroleum odor?		✓	
3. Dike Area and Condition			
a. Is there an excessive accumulation of water in the dike?		✓	
b. Are dike drain valves unlocked or unplugged?		✓	
c. Any sign of dike damage or deterioration?	✓		
d. Is there presence of any vegetation in dike floor or walls?		✓	
4. Tank Condition			
a. Tank showing any signs of damage or deterioration? (shell, paint blisters or peeling, welds, Fasteners, seams, rust)	✓		
b. Tank foundation showing any signs of damage or deterioration?		✓	
c. Are valves used to fill the tank unlocked?	✓		
d. Are valves or fittings used to drain the tank unlocked or unplugged?		✓	
5. Piping Condition			
a. Any sign of fuel distribution piping damage or deterioration?		✓	
6. Pump Condition			
a. Are oil transfer pumps from tanker unloading area to storage tank in good operating condition?			✓
b. Are pumps leaking?			✓
c. Are oil transfer pumps from storage tank to Powerhouse in good operating condition?			✓
d. Are pumps leaking?			✓

NOTE: Regulated petroleum tanks have no instrumentation to be calibrated.

If any inspection points are checked yes, describe the deficiency and corrective actions taken: _____

3c and 4A - rust

4c - not required.

Previous Repair Tickets have been issued for repair.

Supervisor signature and date (only if deficiencies noted): [redacted] _____

Notes:

1. DO NOT ENTER DIKE AREA around tank without obtaining a confined space entry permit.
2. Report deficiencies to Supervisor immediately. Supervisor must sign this form if deficiencies are noted.
3. Inspections must be made at least once each week (Sunday through Saturday) during normal operations.

DUP 7992 (Rev. Lev. 1, 06/05)

WEEKLY INSPECTION CHECKLIST FOR ABOVEGROUND STORAGE TANKS

Bldg. No. 9487 Tank No. _____ RFA No. 28220 / Area: NG2

Inspector (print name): [redacted] Signature: [redacted]

Date of Inspection: 4-17-11 Time of Inspection: 945

Inspection Point	YES	NO	N/A
1. Hazardous Conditions			
a. Tripping hazards in area?		✓	
b. Other potential safety hazards? (i.e ladders or walkways need repair?)		✓	
2. Leak Indicators			
a. Stained or discolored soil around dike?		✓	
b. Leaks from tank, dike, piping systems, tank loading / unloading area, etc.?		✓	
c. Inlet or outlet piping systems showing signs of leakage?		✓	
d. Does standing water in dike have an oily sheen or discoloration?		✓	
e. Is there presence of a petroleum odor?		✓	
3. Dike Area and Condition			
a. Is there an excessive accumulation of water in the dike?		✓	
b. Are dike drain valves unlocked or unplugged?		✓	
c. Any sign of dike damage or deterioration?	✓		
d. Is there presence of any vegetation in dike floor or walls?		✓	
4. Tank Condition	✓		
a. Tank showing any signs of damage or deterioration? (shell, paint blisters or peeling, welds, Fasteners, seams, rust)		✓	
b. Tank foundation showing any signs of damage or deterioration?		✓	
c. Are valves used to fill the tank unlocked?			✓
d. Are valves or fittings used to drain the tank unlocked or unplugged?		✓	
5. Piping Condition			
a. Any sign of fuel distribution piping damage or deterioration?		✓	
6. Pump Condition			
a. Are oil transfer pumps from tanker unloading area to storage tank in good operating condition?			✓
b. Are pumps leaking?			✓
c. Are oil transfer pumps from storage tank to Powerhouse in good operating condition?			✓
d. Are pumps leaking?			✓

NOTE: Regulated petroleum tanks have no instrumentation to be calibrated.
If any inspection points are checked yes, describe the deficiency and corrective actions taken: _____

3C Rust

4A Rust / Paint peeling

Supervisor signature and date (only if deficiencies noted): [redacted] 4/17/11

Notes:
1. DO NOT ENTER DIKE AREA around tank without obtaining a confined space entry permit.
2. Report deficiencies to Supervisor immediately. Supervisor must sign this form if deficiencies are noted.
3. Inspections must be made at least once each week (Sunday through Saturday) during normal operations.

DUP 7992 (Rev. Lev. 1, 06/05)

WEEKLY INSPECTION CHECKLIST FOR ABOVEGROUND STORAGE TANKS

Bldg. No. 9467 Tank No. _____ RFA No. 28220 Area: NGP

Inspector (print name) [redacted] Signature: [redacted]

Date of Inspection: 4/10/11 Time of Inspection: 11:15 (AM)

Inspection Point	YES	NO	N/A
1. Hazardous Conditions			
a. Tripping hazards in area?		✓	
b. Other potential safety hazards? (i.e ladders or walkways need repair?)		✓	
2. Leak Indicators			
a. Stained or discolored soil around dike?		✓	
b. Leaks from tank, dike, piping systems, tank loading / unloading area, etc.?		✓	
c. Inlet or outlet piping systems showing signs of leakage?		✓	
d. Does standing water in dike have an oily sheen or discoloration?			✓
e. Is there presence of a petroleum odor?		✓	
3. Dike Area and Condition			
a. Is there an excessive accumulation of water in the dike?			✓
b. Are dike drain valves unlocked or unplugged?			✓
c. Any sign of dike damage or deterioration?	✓		
d. Is there presence of any vegetation in dike floor or walls?		✓	
4. Tank Condition			
a. Tank showing any signs of damage or deterioration? (shell, paint blisters or peeling, welds, Fasteners, seams, rust)	✓		
b. Tank foundation showing any signs of damage or deterioration?	✓		
c. Are valves used to fill the tank unlocked?	✓		
d. Are valves or fittings used to drain the tank unlocked or unplugged?	✓		
5. Piping Condition			
a. Any sign of fuel distribution piping damage or deterioration?		✓	
6. Pump Condition			
a. Are oil transfer pumps from tanker unloading area to storage tank in good operating condition?			✓
b. Are pumps leaking?			✓
c. Are oil transfer pumps from storage tank to Powerhouse in good operating condition?			✓
d. Are pumps leaking?			✓

NOTE: Regulated petroleum tanks have no instrumentation to be calibrated.

If any inspection points are checked yes, describe the deficiency and corrective actions taken:

Cement Starting to Crack, Paint Starting to Peel, Bolts Rusting

Supervisor signature and date (only if deficiencies noted): [redacted] 4/10/11

Notes:

1. DO NOT ENTER DIKE AREA around tank without obtaining a confined space entry permit.
2. Report deficiencies to Supervisor immediately. Supervisor must sign this form if deficiencies are noted.
3. Inspections must be made at least once each week (Sunday through Saturday) during normal operations.

DUP 7992 (Rev. Lev. 1, 06/05)

WEEKLY INSPECTION CHECKLIST FOR ABOVEGROUND STORAGE TANKS

Bldg. No. 9467 Tank No. _____ REA No. 28220 Area: NG II

Inspector (print name): [redacted] Signature: [redacted]

Date of Inspection: 3/27/11 Time of Inspection: 1000

Inspection Point	YES	NO	N/A
1. Hazardous Conditions			
a. Tripping hazards in area?		—	
b. Other potential safety hazards? (i.e ladders or walkways need repair?)		—	
2. Leak Indicators			
a. Stained or discolored soil around dike?		—	
b. Leaks from tank, dike, piping systems, tank loading / unloading area, etc.?		—	
c. Inlet or outlet piping systems showing signs of leakage?		—	
d. Does standing water in dike have an oily sheen or discoloration?		—	
e. Is there presence of a petroleum odor?		—	
3. Dike Area and Condition			
a. Is there an excessive accumulation of water in the dike?		—	
b. Are dike drain valves unlocked or unplugged?		—	
c. Any sign of dike damage or deterioration?		—	
d. Is there presence of any vegetation in dike floor or walls?		—	
4. Tank Condition			
a. Tank showing any signs of damage or deterioration? (shell, paint blisters or peeling, welds, Fasteners, seams, rust)	—		
b. Tank foundation showing any signs of damage or deterioration?	—		
c. Are valves used to fill the tank unlocked?	—		
d. Are valves or fittings used to drain the tank unlocked or unplugged?		—	
5. Piping Condition			
a. Any sign of fuel distribution piping damage or deterioration?	—		
6. Pump Condition			
a. Are oil transfer pumps from tanker unloading area to storage tank in good operating condition?			
b. Are pumps leaking?			
c. Are oil transfer pumps from storage tank to Powerhouse in good operating condition?			
d. Are pumps leaking?			

NOTE: Regulated petroleum tanks have no instrumentation to be calibrated.

If any inspection points are checked yes, describe the deficiency and corrective actions taken:

Paint blisters / rust

Valves unlocka

Supervisor signature and date (only if deficiencies noted): [redacted]

Notes:

1. DO NOT ENTER DIKE AREA around tank without obtaining a confined space entry permit.
2. Report deficiencies to Supervisor immediately. Supervisor must sign this form if deficiencies are noted.
3. Inspections must be made at least once each week (Sunday through Saturday) during normal operations.

DUP 7992 (Rev. Lev. 1, 06/05)

WEEKLY INSPECTION CHECKLIST FOR ABOVEGROUND STORAGE TANKS

Bldg. No. 9467 **Tank No.** _____ **RFA No.** 28220 **Area:** NG2

Inspector (print name): [redacted] **Signature:** [redacted]

Date of Inspection: 4-3-2011 **Time of Inspection:** 0820

Inspection Point	YES	NO	N/A
1. Hazardous Conditions			
a. Tripping hazards in area?		✓	
b. Other potential safety hazards? (i.e ladders or walkways need repair?)		✓	
2. Leak Indicators			
a. Stained or discolored soil around dike?		✓	
b. Leaks from tank, dike, piping systems, tank loading / unloading area, etc.?		✓	
c. Inlet or outlet piping systems showing signs of leakage?		✓	
d. Does standing water in dike have an oily sheen or discoloration?		✓	
e. Is there presence of a petroleum odor?		✓	
3. Dike Area and Condition			
a. Is there an excessive accumulation of water in the dike?		✓	
b. Are dike drain valves unlocked or unplugged?		✓	
c. Any sign of dike damage or deterioration?	✓		
d. Is there presence of any vegetation in dike floor or walls?		✓	
4. Tank Condition			
a. Tank showing any signs of damage or deterioration? (shell, paint blisters or peeling, welds, Fasteners, seams, rust)	✓		
b. Tank foundation showing any signs of damage or deterioration?		✓	
c. Are valves used to fill the tank unlocked?	✓		
d. Are valves or fittings used to drain the tank unlocked or unplugged?		✓	
5. Piping Condition			
a. Any sign of fuel distribution piping damage or deterioration?		✓	
6. Pump Condition			
a. Are oil transfer pumps from tanker unloading area to storage tank in good operating condition?			✓
b. Are pumps leaking?			✓
c. Are oil transfer pumps from storage tank to Powerhouse in good operating condition?			✓
d. Are pumps leaking?			✓

NOTE: Regulated petroleum tanks have no instrumentation to be calibrated.
If any inspection points are checked yes, describe the deficiency and corrective actions taken: _____

3c and 4A - some rust
4c - Not required.
Repair ticket previously issued.

Supervisor signature and date (only if deficiencies noted): [redacted] 4-3-2011

Notes:
1. DO NOT ENTER DIKE AREA around tank without obtaining a confined space entry permit.
2. Report deficiencies to Supervisor immediately. Supervisor must sign this form if deficiencies are noted.
3. Inspections must be made at least once each week (Sunday through Saturday) during normal operations.

DUP 7992 (Rev. Lev. 1, 06/01/05)

WEEKLY INSPECTION CHECKLIST FOR ABOVEGROUND STORAGE TANKS

Bldg. No. 738 **Tank No.** 408 **RFA No.** 17153 **Area:** PH-1

Inspector (print name): [redacted] **Signature:** [redacted]

Date of Inspection: 5-14-11 **Time of Inspection:** 12:00 Noon

Inspection Point	YES	NO	N/A
1. Hazardous Conditions			
a. Tripping hazards in area?		✓	
b. Other potential safety hazards? (i.e ladders or walkways need repair?)		✓	
2. Leak Indicators			
a. Stained or discolored soil around dike?		✓	
b. Leaks from tank, dike, piping systems, tank loading / unloading area, etc.?		✓	
c. Inlet or outlet piping systems showing signs of leakage?		✓	
d. Does standing water in dike have an oily sheen or discoloration?		✓	
e. Is there presence of a petroleum odor?		✓	
3. Dike Area and Condition			
a. Is there an excessive accumulation of water in the dike?		✓	
b. Are dike drain valves unlocked or unplugged?		✓	
c. Any sign of dike damage or deterioration?		✓	
d. Is there presence of any vegetation in dike floor or walls?		✓	
4. Tank Condition			
a. Tank showing any signs of damage or deterioration? (shell, paint blisters or peeling, welds, Fasteners, seams, rust)		✓	
b. Tank foundation showing any signs of damage or deterioration?		✓	
c. Are valves used to fill the tank unlocked?		✓	
d. Are valves or fittings used to drain the tank unlocked or unplugged?		✓	
5. Piping Condition			
a. Any sign of fuel distribution piping damage or deterioration?		✓	
6. Pump Condition			
a. Are oil transfer pumps from tanker unloading area to storage tank in good operating condition?	✓		
b. Are pumps leaking?		✓	
c. Are oil transfer pumps from storage tank to Powerhouse in good operating condition?	✓		
d. Are pumps leaking?		✓	

NOTE: Regulated petroleum tanks have no instrumentation to be calibrated.
If any inspection points are checked yes, describe the deficiency and corrective actions taken: _____

Supervisor signature and date (only if deficiencies noted): _____

Notes:
1. DO NOT ENTER DIKE AREA around tank without obtaining a confined space entry permit.
2. Report deficiencies to Supervisor immediately. Supervisor must sign this form if deficiencies are noted.
3. Inspections must be made at least once each week (Sunday through Saturday) during normal operations.

DUP 7991 (Rev. Lev. 0, 7/1/99)

DAILY INSPECTION CHECKLIST FOR ABOVEGROUND STORAGE TANKS

Bldg. No. 738 Tank No. 488 RFA No. 17153 Area: PH-1

Inspector (print name): [redacted] Signature: [redacted]

Date of Inspection: 5-17-2011 Time of Inspection: 12:15 PM

Inspection Point	YES	NO	N/A
1. Hazardous Conditions			
a. Tripping hazards in area?		✓	
b. Other potential safety hazards? (i.e ladders or walkways need repair?)		✓	
2. Leak Indicators			
a. Stained or discolored soil around dike?		✓	
b. Leaks from tank, dike, piping systems, tanker unloading area, etc.?		✓	
c. Abnormally large decrease in liquid level? (greater than 1% or 556 gallons) (compare gauge level with previous day's level)		✓	
3. Dike Area and Condition			
a. Is there an excessive accumulation of water in dike?		✓	
b. Are dike drain valves unlocked?		✓	
c. Any sign of dike damage or deterioration?		✓	
d. Any sign of tanker unloading area damage or deterioration?		✓	
4. Tank Condition		✓	
a. Tank showing any signs of damage or deterioration?		✓	
b. Tank foundation showing any signs of damage or deterioration?		✓	
5. Piping Condition			
a. Any sign of fuel distribution piping damage or deterioration?		✓	
b. Any sign of tanker unloading piping damage or deterioration?		✓	
c. Any sign of leak detection piping system damage or deterioration?		✓	
6. Instrumentation Condition			
a. Any sign of fuel inventory control instrumentation failure or malfunction?		✓	
b. Any sign of tanker unloading instrumentation damage or malfunction?		✓	

NOTE: Tank inventory control and level control systems cannot be calibrated.

If any inspection points are checked yes, describe the deficiency and corrective actions taken: _____

Supervisor signature and date (only if deficiencies noted): _____

Notes:
1. DO NOT ENTER DIKE AREA around tank without obtaining a confined space entry permit.
2. Report deficiencies to Supervisor immediately. Supervisor must sign this form if deficiencies are noted.
3. Inspections must be made at least once each day (every 24 hours) during normal operations.

DUP 7992 (Rev. Lev. 1, 06/05)

WEEKLY INSPECTION CHECKLIST FOR ABOVEGROUND STORAGE TANKS

Bldg. No. _____ **Tank No.** _____ **RFA No.** 28733 **Area:** _____

Inspector (print name): [redacted] **Signature:** [redacted]

Date of Inspection: 4-1-11 **Time of Inspection:** 1100 pm.

Inspection Point	YES	NO	N/A
1. Hazardous Conditions			
a. Tripping hazards in area?		✓	
b. Other potential safety hazards? (i.e ladders or walkways need repair?)		✓	
2. Leak Indicators			
a. Stained or discolored soil around dike?		✓	
b. Leaks from tank, dike, piping systems, tank loading / unloading area, etc.?		✓	
c. Inlet or outlet piping systems showing signs of leakage?		✓	
d. Does standing water in dike have an oily sheen or discoloration?			✓
e. Is there presence of a petroleum odor?		✓	
3. Dike Area and Condition			
a. Is there an excessive accumulation of water in the dike?			✓
b. Are dike drain valves unlocked or unplugged?			✓
c. Any sign of dike damage or deterioration?			✓
d. Is there presence of any vegetation in dike floor or walls?			✓
4. Tank Condition			
a. Tank showing any signs of damage or deterioration? (shell, paint blisters or peeling, welds, Fasteners, seams, rust)		✓	
b. Tank foundation showing any signs of damage or deterioration?		✓	
c. Are valves used to fill the tank unlocked?		✓	
d. Are valves or fittings used to drain the tank unlocked or unplugged?		✓	
5. Piping Condition			
a. Any sign of fuel distribution piping damage or deterioration?		✓	
6. Pump Condition			
a. Are oil transfer pumps from tanker unloading area to storage tank in good operating condition?			✓
b. Are pumps leaking?			
c. Are oil transfer pumps from storage tank to Powerhouse in good operating condition?			
d. Are pumps leaking?			

NOTE: Regulated petroleum tanks have no instrumentation to be calibrated.
If any inspection points are checked yes, describe the deficiency and corrective actions taken: _____

Supervisor signature and date (only if deficiencies noted): _____

Notes:
1. DO NOT ENTER DIKE AREA around tank without obtaining a confined space entry permit.
2. Report deficiencies to Supervisor immediately. Supervisor must sign this form if deficiencies are noted.
3. Inspections must be made at least once each week (Sunday through Saturday) during normal operations.

DUP 7992 (Rev. Lev. 1, 06/05)

WEEKLY INSPECTION CHECKLIST FOR ABOVEGROUND STORAGE TANKS

Bldg. No. _____ Tank No. _____ RFA No. 28733 Area: _____

Inspector (print name): [redacted] Signature: [redacted]

Date of Inspection: 3-25-11 Time of Inspection: 10 45 AM

Inspection Point	YES	NO	N/A
1. Hazardous Conditions			
a. Tripping hazards in area?		✓	
b. Other potential safety hazards? (i.e ladders or walkways need repair?)		✓	
2. Leak Indicators			
a. Stained or discolored soil around dike?		✓	
b. Leaks from tank, dike, piping systems, tank loading / unloading area, etc.?		✓	
c. Inlet or outlet piping systems showing signs of leakage?		✓	
d. Does standing water in dike have an oily sheen or discoloration?			✓
e. Is there presence of a petroleum odor?		✓	
3. Dike Area and Condition			
a. Is there an excessive accumulation of water in the dike?			✓
b. Are dike drain valves unlocked or unplugged?			✓
c. Any sign of dike damage or deterioration?			✓
d. Is there presence of any vegetation in dike floor or walls?			✓
4. Tank Condition			
a. Tank showing any signs of damage or deterioration? (shell, paint blisters or peeling, welds, Fasteners, seams, rust)		✓	
b. Tank foundation showing any signs of damage or deterioration?		✓	
c. Are valves used to fill the tank unlocked?		✓	
d. Are valves or fittings used to drain the tank unlocked or unplugged?		✓	
5. Piping Condition			
a. Any sign of fuel distribution piping damage or deterioration?		✓	
6. Pump Condition			
a. Are oil transfer pumps from tanker unloading area to storage tank in good operating condition?			✓
b. Are pumps leaking?			
c. Are oil transfer pumps from storage tank to Powerhouse in good operating condition?			
d. Are pumps leaking?			

NOTE: Regulated petroleum tanks have no instrumentation to be calibrated.
If any inspection points are checked yes, describe the deficiency and corrective actions taken: _____

Supervisor signature and date (only if deficiencies noted): _____

Notes:
1. DO NOT ENTER DIKE AREA around tank without obtaining a confined space entry permit.
2. Report deficiencies to Supervisor immediately. Supervisor must sign this form if deficiencies are noted.
3. Inspections must be made at least once each week (Sunday through Saturday) during normal operations.

DUP 7992 (Rev. Lev. 1, 06/05)

WEEKLY INSPECTION CHECKLIST FOR ABOVEGROUND STORAGE TANKS

Bldg. No. _____ **Tank No.** _____ **RFA No.** 28733 **Area:** _____

Inspector (print name): [redacted] **Signature:** [signature]

Date of Inspection: 3-18-11 **Time of Inspection:** 10 ~~AM~~

Inspection Point	YES	NO	N/A
1. Hazardous Conditions			
a. Tripping hazards in area?		✓	
b. Other potential safety hazards? (i.e ladders or walkways need repair?)		✓	
2. Leak Indicators			
a. Stained or discolored soil around dike?		✓	
b. Leaks from tank, dike, piping systems, tank loading / unloading area, etc.?		✓	
c. Inlet or outlet piping systems showing signs of leakage?		✓	
d. Does standing water in dike have an oily sheen or discoloration?			✓
e. Is there presence of a petroleum odor?		✓	
3. Dike Area and Condition			
a. Is there an excessive accumulation of water in the dike?			✓
b. Are dike drain valves unlocked or unplugged?			✓
c. Any sign of dike damage or deterioration?			✓
d. Is there presence of any vegetation in dike floor or walls?			✓
4. Tank Condition			
a. Tank showing any signs of damage or deterioration? (shell, paint blisters or peeling, welds, Fasteners, seams, rust)		✓	
b. Tank foundation showing any signs of damage or deterioration?		✓	
c. Are valves used to fill the tank unlocked?		✓	
d. Are valves or fittings used to drain the tank unlocked or unplugged?		✓	
5. Piping Condition			
a. Any sign of fuel distribution piping damage or deterioration?		✓	
6. Pump Condition			
a. Are oil transfer pumps from tanker unloading area to storage tank in good operating condition?			✓
b. Are pumps leaking?			
c. Are oil transfer pumps from storage tank to Powerhouse in good operating condition?			
d. Are pumps leaking?			

NOTE: Regulated petroleum tanks have no instrumentation to be calibrated.
If any inspection points are checked yes, describe the deficiency and corrective actions taken: _____

Supervisor signature and date (only if deficiencies noted): _____

Notes:
1. DO NOT ENTER DIKE AREA around tank without obtaining a confined space entry permit.
2. Report deficiencies to Supervisor immediately. Supervisor must sign this form if deficiencies are noted.
3. Inspections must be made at least once each week (Sunday through Saturday) during normal operations.

DUP 7992 (Rev. Lev. 1, 06/05)

WEEKLY INSPECTION CHECKLIST FOR ABOVEGROUND STORAGE TANKS

Bldg. No. _____ Tank No. _____ RFA No. 28733 Area: _____

Inspector (print name): [redacted] _____ Signature: [redacted] _____

Date of Inspection: 3-11-11 Time of Inspection: 9:40 a.m.

Inspection Point	YES	NO	N/A
1. Hazardous Conditions			
a. Tripping hazards in area?		✓	
b. Other potential safety hazards? (i.e ladders or walkways need repair?)		✓	
2. Leak Indicators			
a. Stained or discolored soil around dike?		✓	
b. Leaks from tank, dike, piping systems, tank loading / unloading area, etc.?		✓	
c. Inlet or outlet piping systems showing signs of leakage?		✓	
d. Does standing water in dike have an oily sheen or discoloration?			✓
e. Is there presence of a petroleum odor?		✓	
3. Dike Area and Condition			
a. Is there an excessive accumulation of water in the dike?			✓
b. Are dike drain valves unlocked or unplugged?			✓
c. Any sign of dike damage or deterioration?			✓
d. Is there presence of any vegetation in dike floor or walls?			✓
4. Tank Condition			
a. Tank showing any signs of damage or deterioration? (shell, paint blisters or peeling, welds, Fasteners, seams, rust)		✓	
b. Tank foundation showing any signs of damage or deterioration?		✓	
c. Are valves used to fill the tank unlocked?		✓	
d. Are valves or fittings used to drain the tank unlocked or unplugged?		✓	
5. Piping Condition			
a. Any sign of fuel distribution piping damage or deterioration?		✓	
6. Pump Condition			
a. Are oil transfer pumps from tanker unloading area to storage tank in good operating condition?			✓
b. Are pumps leaking?			
c. Are oil transfer pumps from storage tank to Powerhouse in good operating condition?			
d. Are pumps leaking?			

NOTE: Regulated petroleum tanks have no instrumentation to be calibrated.
If any inspection points are checked yes, describe the deficiency and corrective actions taken: _____

Supervisor signature and date (only if deficiencies noted): _____

Notes:
1. DO NOT ENTER DIKE AREA around tank without obtaining a confined space entry permit.
2. Report deficiencies to Supervisor immediately. Supervisor must sign this form if deficiencies are noted.
3. Inspections must be made at least once each week (Sunday through Saturday) during normal operations.

DUP 7992 (Rev. Lev. 1, 06/05)

WEEKLY INSPECTION CHECKLIST FOR ABOVEGROUND STORAGE TANKS

Bldg. No. _____ **Tank No.** _____ **RFA No.** 28733 **Area:** _____

Inspector (print name): [redacted] **Signature:** [redacted]

Date of Inspection: 3-4-11 **Time of Inspection:** 1 PM.

Inspection Point	YES	NO	N/A
1. Hazardous Conditions			
a. Tripping hazards in area?		✓	
b. Other potential safety hazards? (i.e ladders or walkways need repair?)		✓	
2. Leak Indicators			
a. Stained or discolored soil around dike?		✓	
b. Leaks from tank, dike, piping systems, tank loading / unloading area, etc.?		✓	
c. Inlet or outlet piping systems showing signs of leakage?		✓	
d. Does standing water in dike have an oily sheen or discoloration?			✓
e. Is there presence of a petroleum odor?		✓	
3. Dike Area and Condition			
a. Is there an excessive accumulation of water in the dike?			✓
b. Are dike drain valves unlocked or unplugged?			✓
c. Any sign of dike damage or deterioration?			✓
d. Is there presence of any vegetation in dike floor or walls?			✓
4. Tank Condition			
a. Tank showing any signs of damage or deterioration? (shell, paint blisters or peeling, welds, Fasteners, seams, rust)		✓	
b. Tank foundation showing any signs of damage or deterioration?		✓	
c. Are valves used to fill the tank unlocked?		✓	
d. Are valves or fittings used to drain the tank unlocked or unplugged?		✓	
5. Piping Condition			
a. Any sign of fuel distribution piping damage or deterioration?		✓	
6. Pump Condition			
a. Are oil transfer pumps from tanker unloading area to storage tank in good operating condition?			✓
b. Are pumps leaking?			
c. Are oil transfer pumps from storage tank to Powerhouse in good operating condition?			
d. Are pumps leaking?			

NOTE: Regulated petroleum tanks have no instrumentation to be calibrated.
If any inspection points are checked yes, describe the deficiency and corrective actions taken: _____

Supervisor signature and date (only if deficiencies noted): _____

Notes:
1. DO NOT ENTER DIKE AREA around tank without obtaining a confined space entry permit.
2. Report deficiencies to Supervisor immediately. Supervisor must sign this form if deficiencies are noted.
3. Inspections must be made at least once each week (Sunday through Saturday) during normal operations.

DUP 7992 (Rev. Lev. 1, 06/05)

WEEKLY INSPECTION CHECKLIST FOR ABOVEGROUND STORAGE TANKS

Bldg. No. _____ **Tank No.** _____ **RFA No.** 28733 **Area:** _____

Inspector (print name): [redacted] **Signature:** [redacted]

Date of Inspection: 2-25-11 **Time of Inspection:** 10 PM

Inspection Point	YES	NO	N/A
1. Hazardous Conditions			
a. Tripping hazards in area?		✓	
b. Other potential safety hazards? (i.e ladders or walkways need repair?)		✓	
2. Leak Indicators			
a. Stained or discolored soil around dike?		✓	
b. Leaks from tank, dike, piping systems, tank loading / unloading area, etc.?		✓	
c. Inlet or outlet piping systems showing signs of leakage?		✓	
d. Does standing water in dike have an oily sheen or discoloration?			✓
e. Is there presence of a petroleum odor?		✓	
3. Dike Area and Condition			
a. Is there an excessive accumulation of water in the dike?			✓
b. Are dike drain valves unlocked or unplugged?			✓
c. Any sign of dike damage or deterioration?			✓
d. Is there presence of any vegetation in dike floor or walls?			✓
4. Tank Condition			
a. Tank showing any signs of damage or deterioration? (shell, paint blisters or peeling, welds, Fasteners, seams, rust)		✓	
b. Tank foundation showing any signs of damage or deterioration?		✓	
c. Are valves used to fill the tank unlocked?		✓	
d. Are valves or fittings used to drain the tank unlocked or unplugged?		✓	
5. Piping Condition			
a. Any sign of fuel distribution piping damage or deterioration?		✓	
6. Pump Condition			
a. Are oil transfer pumps from tanker unloading area to storage tank in good operating condition?			✓
b. Are pumps leaking?			
c. Are oil transfer pumps from storage tank to Powerhouse in good operating condition?			
d. Are pumps leaking?			

NOTE: Regulated petroleum tanks have no instrumentation to be calibrated.
If any inspection points are checked yes, describe the deficiency and corrective actions taken: _____

Supervisor signature and date (only if deficiencies noted): _____

Notes:
1. DO NOT ENTER DIKE AREA around tank without obtaining a confined space entry permit.
2. Report deficiencies to Supervisor immediately. Supervisor must sign this form if deficiencies are noted.
3. Inspections must be made at least once each week (Sunday through Saturday) during normal operations.

DUP 7992 (Rev. Lev. 1, 06/05)

WEEKLY INSPECTION CHECKLIST FOR ABOVEGROUND STORAGE TANKS

Bldg. No. _____ **Tank No.** _____ **RFA No.** 28733 **Area:** _____

Inspector (print name): [redacted] **Signature:** [redacted]

Date of Inspection: 2-11-11 **Time of Inspection:** 10 ~~2~~ pm

Inspection Point	YES	NO	N/A
1. Hazardous Conditions			
a. Tripping hazards in area?		✓	
b. Other potential safety hazards? (i.e ladders or walkways need repair?)		✓	
2. Leak Indicators			
a. Stained or discolored soil around dike?		✓	
b. Leaks from tank, dike, piping systems, tank loading / unloading area, etc.?		✓	
c. Inlet or outlet piping systems showing signs of leakage?		✓	
d. Does standing water in dike have an oily sheen or discoloration?			✓
e. Is there presence of a petroleum odor?		✓	
3. Dike Area and Condition			
a. Is there an excessive accumulation of water in the dike?			✓
b. Are dike drain valves unlocked or unplugged?			✓
c. Any sign of dike damage or deterioration?			✓
d. Is there presence of any vegetation in dike floor or walls?			✓
4. Tank Condition			
a. Tank showing any signs of damage or deterioration? (shell, paint blisters or peeling, welds, Fasteners, seams, rust)		✓	
b. Tank foundation showing any signs of damage or deterioration?		✓	
c. Are valves used to fill the tank unlocked?		✓	
d. Are valves or fittings used to drain the tank unlocked or unplugged?		✓	
5. Piping Condition			
a. Any sign of fuel distribution piping damage or deterioration?		✓	
6. Pump Condition			
a. Are oil transfer pumps from tanker unloading area to storage tank in good operating condition?			✓
b. Are pumps leaking?			
c. Are oil transfer pumps from storage tank to Powerhouse in good operating condition?			
d. Are pumps leaking?			

NOTE: Regulated petroleum tanks have no instrumentation to be calibrated.
If any inspection points are checked yes, describe the deficiency and corrective actions taken: _____

Supervisor signature and date (only if deficiencies noted): _____

Notes:
1. DO NOT ENTER DIKE AREA around tank without obtaining a confined space entry permit.
2. Report deficiencies to Supervisor immediately. Supervisor must sign this form if deficiencies are noted.
3. Inspections must be made at least once each week (Sunday through Saturday) during normal operations.

DUP 7992 (Rev. Lev. 1, 06/05)

WEEKLY INSPECTION CHECKLIST FOR ABOVEGROUND STORAGE TANKS

Bldg. No. _____ **Tank No.** _____ **RFA No.** 28433 **Area:** _____

Inspector (print name): [redacted] **Signature:** [redacted]

Date of Inspection: 2-18-11 **Time of Inspection:** 8:25

Inspection Point	YES	NO	N/A
1. Hazardous Conditions			
a. Tripping hazards in area?		✓	
b. Other potential safety hazards? (i.e ladders or walkways need repair?)		✓	
2. Leak Indicators			
a. Stained or discolored soil around dike?		✓	
b. Leaks from tank, dike, piping systems, tank loading / unloading area, etc.?		✓	
c. Inlet or outlet piping systems showing signs of leakage?		✓	
d. Does standing water in dike have an oily sheen or discoloration?			✓
e. Is there presence of a petroleum odor?		✓	
3. Dike Area and Condition			
a. Is there an excessive accumulation of water in the dike?			✓
b. Are dike drain valves unlocked or unplugged?			✓
c. Any sign of dike damage or deterioration?			✓
d. Is there presence of any vegetation in dike floor or walls?			✓
4. Tank Condition			
a. Tank showing any signs of damage or deterioration? (shell, paint blisters or peeling, welds, Fasteners, seams, rust)		✓	
b. Tank foundation showing any signs of damage or deterioration?		✓	
c. Are valves used to fill the tank unlocked?		✓	
d. Are valves or fittings used to drain the tank unlocked or unplugged?		✓	
5. Piping Condition			
a. Any sign of fuel distribution piping damage or deterioration?		✓	
6. Pump Condition			
a. Are oil transfer pumps from tanker unloading area to storage tank in good operating condition?			✓
b. Are pumps leaking?			
c. Are oil transfer pumps from storage tank to Powerhouse in good operating condition?			
d. Are pumps leaking?			

NOTE: Regulated petroleum tanks have no instrumentation to be calibrated.
If any inspection points are checked yes, describe the deficiency and corrective actions taken: _____

Supervisor signature and date (only if deficiencies noted): _____

Notes:
1. DO NOT ENTER DIKE AREA around tank without obtaining a confined space entry permit.
2. Report deficiencies to Supervisor immediately. Supervisor must sign this form if deficiencies are noted.
3. Inspections must be made at least once each week (Sunday through Saturday) during normal operations.

DUP 7992 (Rev. Lev. 1, 06/05)

WEEKLY INSPECTION CHECKLIST FOR ABOVEGROUND STORAGE TANKS

Bldg. No. 3807 Tank No. _____ RFA No. 28219 Area: NG-1

Inspector (print name): [redacted] Signature: [redacted]

Date of Inspection: 5/16/11 Time of Inspection: 9:15/AM

Inspection Point	YES	NO	N/A
1. Hazardous Conditions			
a. Tripping hazards in area?		✓	
b. Other potential safety hazards? (i.e ladders or walkways need repair?)		✓	
2. Leak Indicators			
a. Stained or discolored soil around dike?		✓	
b. Leaks from tank, dike, piping systems, tank loading / unloading area, etc.?		✓	
c. Inlet or outlet piping systems showing signs of leakage?		✓	
d. Does standing water in dike have an oily sheen or discoloration?			✓
e. Is there presence of a petroleum odor?		✓	
3. Dike Area and Condition			
a. Is there an excessive accumulation of water in the dike?			✓
b. Are dike drain valves unlocked or unplugged?			✓
c. Any sign of dike damage or deterioration?	✓		
d. Is there presence of any vegetation in dike floor or walls?	✓		
4. Tank Condition			
a. Tank showing any signs of damage or deterioration? (shell, paint blisters or peeling, welds, Fasteners, seams, rust)	✓		
b. Tank foundation showing any signs of damage or deterioration?	✓		
c. Are valves used to fill the tank unlocked?	✓		
d. Are valves or fittings used to drain the tank unlocked or unplugged?	✓		
5. Piping Condition			
a. Any sign of fuel distribution piping damage or deterioration?	✓		
6. Pump Condition			
a. Are oil transfer pumps from tanker unloading area to storage tank in good operating condition?			✓
b. Are pumps leaking?			✓
c. Are oil transfer pumps from storage tank to Powerhouse in good operating condition?			✓
d. Are pumps leaking?			✓

NOTE: Regulated petroleum tanks have no instrumentation to be calibrated.

If any inspection points are checked yes, describe the deficiency and corrective actions taken:

Base of dike Eroding, Bushes Growing Around dike, Tanks Rusting & Blistering

Supervisor signature and date (only if deficiencies noted): [redacted] ✓

Notes:

1. DO NOT ENTER DIKE AREA around tank without obtaining a confined space entry permit.
2. Report deficiencies to Supervisor immediately. Supervisor must sign this form if deficiencies are noted.
3. Inspections must be made at least once each week (Sunday through Saturday) during normal operations.

DUP 7992 (Rev. Lev. 1, 06/01/05)

WEEKLY INSPECTION CHECKLIST FOR ABOVEGROUND STORAGE TANKS

Bldg. No. 3807 Tank No. _____ RFA No. 28219 Area: NG 1

Inspector (print name): [redacted] Signature: [redacted]

Date of Inspection: 5-8-2011 Time of Inspection: 1218

Inspection Point	YES	NO	N/A
1. Hazardous Conditions			
a. Tripping hazards in area?		✓	
b. Other potential safety hazards? (i.e ladders or walkways need repair?)		✓	
2. Leak Indicators			
a. Stained or discolored soil around dike?		✓	
b. Leaks from tank, dike, piping systems, tank loading / unloading area, etc.?		✓	
c. Inlet or outlet piping systems showing signs of leakage?		✓	
d. Does standing water in dike have an oily sheen or discoloration?		✓	
e. Is there presence of a petroleum odor?		✓	
3. Dike Area and Condition			
a. Is there an excessive accumulation of water in the dike?	INS ✗	✓	
b. Are dike drain valves unlocked or unplugged?	✗	✓	
c. Any sign of dike damage or deterioration?	✓		
d. Is there presence of any vegetation in dike floor or walls?		✓	
4. Tank Condition			
a. Tank showing any signs of damage or deterioration? (shell, paint blisters or peeling, welds, Fasteners, seams, rust)	✓		
b. Tank foundation showing any signs of damage or deterioration?		✓	
c. Are valves used to fill the tank unlocked?	✓		
d. Are valves or fittings used to drain the tank unlocked or unplugged?		✓	
5. Piping Condition			
a. Any sign of fuel distribution piping damage or deterioration?		✓	
6. Pump Condition			
a. Are oil transfer pumps from tanker unloading area to storage tank in good operating condition?			✓
b. Are pumps leaking?			✓
c. Are oil transfer pumps from storage tank to Powerhouse in good operating condition?			✓
d. Are pumps leaking?			✓

NOTE: Regulated petroleum tanks have no instrumentation to be calibrated.
If any inspection points are checked yes, describe the deficiency and corrective actions taken: _____

3c and 4A - rust
4C - Not required.

Supervisor signature and date (only if deficiencies noted): [redacted] 5-8-2011

Notes:
1. DO NOT ENTER DIKE AREA around tank without obtaining a confined space entry permit.
2. Report deficiencies to Supervisor immediately. Supervisor must sign this form if deficiencies are noted.
3. Inspections must be made at least once each week (Sunday through Saturday) during normal operations.

DUP 7992 (Rev. Lev. 1. 06/05)

WEEKLY INSPECTION CHECKLIST FOR ABOVEGROUND STORAGE TANKS

Bldg. No. 3807 Tank No. _____ RFA No. 28219 Area: NG 1

Inspector (print name): [redacted] Signature: [redacted]

Date of Inspection: 5-1-2011 Time of Inspection: 1346

Inspection Point	YES	NO	N/A
1. Hazardous Conditions			
a. Tripping hazards in area?		✓	
b. Other potential safety hazards? (i.e ladders or walkways need repair?)		✓	
2. Leak Indicators			
a. Stained or discolored soil around dike?		✓	
b. Leaks from tank, dike, piping systems, tank loading / unloading area, etc.?		✓	
c. Inlet or outlet piping systems showing signs of leakage?		✓	
d. Does standing water in dike have an oily sheen or discoloration?		✓	
e. Is there presence of a petroleum odor?		✓	
3. Dike Area and Condition			
a. Is there an excessive accumulation of water in the dike?		✓	
b. Are dike drain valves unlocked or unplugged?		✓	
c. Any sign of dike damage or deterioration?	✓		
d. Is there presence of any vegetation in dike floor or walls?		✓	
4. Tank Condition			
a. Tank showing any signs of damage or deterioration? (shell, paint blisters or peeling, welds, Fasteners, seams, rust)	✓		
b. Tank foundation showing any signs of damage or deterioration?		✓	
c. Are valves used to fill the tank unlocked?	✓		
d. Are valves or fittings used to drain the tank unlocked or unplugged?		✓	
5. Piping Condition			
a. Any sign of fuel distribution piping damage or deterioration?		✓	
6. Pump Condition			
a. Are oil transfer pumps from tanker unloading area to storage tank in good operating condition?			✓
b. Are pumps leaking?			✓
c. Are oil transfer pumps from storage tank to Powerhouse in good operating condition?			✓
d. Are pumps leaking?			✓

NOTE: Regulated petroleum tanks have no instrumentation to be calibrated.
If any inspection points are checked yes, describe the deficiency and corrective actions taken: _____

3C and 4A - Rust

Note - This tank is empty and NG1 Area is in Stand by

Supervisor signature and date (only if deficiencies noted): [redacted]

Notes:
1. DO NOT ENTER DIKE AREA around tank without obtaining a confined space entry permit.
2. Report deficiencies to Supervisor immediately. Supervisor must sign this form if deficiencies are noted.
3. Inspections must be made at least once each week (Sunday through Saturday) during normal operations.

DUP 7992 (Rev. Lev. 1, 06/01/05)

WEEKLY INSPECTION CHECKLIST FOR ABOVEGROUND STORAGE TANKS

Bldg. No. 3807 **Tank No.** _____ **RFA No.** 28219 **Area:** NGI

Inspector (print name): [redacted] **Signature:** [redacted]

Date of Inspection: 7/7/10 **Time of Inspection:** 1030

Inspection Point	YES	NO	N/A
1. Hazardous Conditions			
a. Tripping hazards in area?		✓	
b. Other potential safety hazards? (i.e ladders or walkways need repair?)		✓	
2. Leak Indicators			
a. Stained or discolored soil around dike?		✓	
b. Leaks from tank, dike, piping systems, tank loading / unloading area, etc.?		✓	
c. Inlet or outlet piping systems showing signs of leakage?		✓	
d. Does standing water in dike have an oily sheen or discoloration?		✓	
e. Is there presence of a petroleum odor?		✓	
3. Dike Area and Condition			
a. Is there an excessive accumulation of water in the dike?		✓	
b. Are dike drain valves unlocked or unplugged?		✓	
c. Any sign of dike damage or deterioration?	✓		
d. Is there presence of any vegetation in dike floor or walls?		✓	
4. Tank Condition			
a. Tank showing any signs of damage or deterioration? (shell, paint blisters or peeling, welds, Fasteners, seams, rust)	✓		
b. Tank foundation showing any signs of damage or deterioration?		✓	
c. Are valves used to fill the tank unlocked?	✓		
d. Are valves or fittings used to drain the tank unlocked or unplugged?		✓	
5. Piping Condition			
a. Any sign of fuel distribution piping damage or deterioration?		✓	
6. Pump Condition			
a. Are oil transfer pumps from tanker unloading area to storage tank in good operating condition?			✓
b. Are pumps leaking?			
c. Are oil transfer pumps from storage tank to Powerhouse in good operating condition?			
d. Are pumps leaking?			

NOTE: Regulated petroleum tanks have no instrumentation to be calibrated.
If any inspection points are checked yes, describe the deficiency and corrective actions taken: _____

Rust - Paint blisters
Weed Growth
NOT IN USE

Supervisor signature and date (only if deficiencies noted): [redacted] _____

Notes:
1. DO NOT ENTER DIKE AREA around tank without obtaining a confined space entry permit.
2. Report deficiencies to Supervisor immediately. Supervisor must sign this form if deficiencies are noted.
3. Inspections must be made at least once each week (Sunday through Saturday) during normal operations.

DUP 7992 (Rev. Lev. 1, 06/05)

WEEKLY INSPECTION CHECKLIST FOR ABOVEGROUND STORAGE TANKS

Bldg. No. 3807 **Tank No.** _____ **RFA No.** 28219 / **Area:** M-1

Inspector (print name): [redacted] **Signature:** [redacted]

Date of Inspection: 4-17-11 **Time of Inspection:** 900

Inspection Point	YES	NO	N/A
1. Hazardous Conditions			
a. Tripping hazards in area?		✓	
b. Other potential safety hazards? (i.e ladders or walkways need repair?)		✓	
2. Leak Indicators			
a. Stained or discolored soil around dike?		✓	
b. Leaks from tank, dike, piping systems, tank loading / unloading area, etc.?		✓	
c. Inlet or outlet piping systems showing signs of leakage?		✓	
d. Does standing water in dike have an oily sheen or discoloration?		✓	
e. Is there presence of a petroleum odor?		✓	
3. Dike Area and Condition			
a. Is there an excessive accumulation of water in the dike?		✓	
b. Are dike drain valves unlocked or unplugged?		✓	
c. Any sign of dike damage or deterioration?	✓		
d. Is there presence of any vegetation in dike floor or walls?		✓	
4. Tank Condition		✓	
a. Tank showing any signs of damage or deterioration? (shell, paint blisters or peeling, welds, Fasteners, seams, rust)	✓		
b. Tank foundation showing any signs of damage or deterioration?		✓	
c. Are valves used to fill the tank unlocked?	✓		
d. Are valves or fittings used to drain the tank unlocked or unplugged?		✓	
5. Piping Condition			
a. Any sign of fuel distribution piping damage or deterioration?		✓	
6. Pump Condition			
a. Are oil transfer pumps from tanker unloading area to storage tank in good operating condition?			✓
b. Are pumps leaking?			✓
c. Are oil transfer pumps from storage tank to Powerhouse in good operating condition?			✓
d. Are pumps leaking?			✓

NOTE: Regulated petroleum tanks have no instrumentation to be calibrated.
If any inspection points are checked yes, describe the deficiency and corrective actions taken: _____

3-C rust
4-A paint blisters
4-C Tanks are not used They are empty

Supervisor signature and date (only if deficiencies noted): [redacted]

Notes:
1. DO NOT ENTER DIKE AREA around tank without obtaining a confined space entry permit.
2. Report deficiencies to Supervisor immediately. Supervisor must sign this form if deficiencies are noted.
3. Inspections must be made at least once each week (Sunday through Saturday) during normal operations.

[redacted]

From: [redacted]
Sent: Monday, April 25, 2011 1:56 PM
To: [redacted]
Subject: Attached Files
Attachments: doc441.JPG; doc44000.JPG

Dup-7992

DUP 7992 (Rev. Lev. 1, 06/05)

WEEKLY INSPECTION CHECKLIST FOR ABOVEGROUND STORAGE TANKS

Bldg. No. 3807 **Tank No.** ~~28219~~ **RFA No.** 28219 **Area:** NG-1

Inspector (print name): [redacted] **Signature:** [redacted]

Date of Inspection: 4/10/11 **Time of Inspection:** 11:45 Am

Inspection Point	YES	NO	N/A
1. Hazardous Conditions			
a. Tripping hazards in area?		✓	
b. Other potential safety hazards? (i.e ladders or walkways need repair?)		✓	
2. Leak Indicators			
a. Stained or discolored soil around dike?		✓	
b. Leaks from tank, dike, piping systems, tank loading / unloading area, etc.?			✓
c. Inlet or outlet piping systems showing signs of leakage?			✓
d. Does standing water in dike have an oily sheen or discoloration?			✓
e. Is there presence of a petroleum odor?		✓	
3. Dike Area and Condition			
a. Is there an excessive accumulation of water in the dike?			✓
b. Are dike drain valves unlocked or unplugged?	✓		
c. Any sign of dike damage or deterioration?	✓		
d. Is there presence of any vegetation in dike floor or walls?	✓		
4. Tank Condition			
a. Tank showing any signs of damage or deterioration? (shell, paint blisters or peeling, welds, Fasteners, seams, rust)	✓		
b. Tank foundation showing any signs of damage or deterioration?	✓		
c. Are valves used to fill the tank unlocked?	✓		
d. Are valves or fittings used to drain the tank unlocked or unplugged?	✓		
5. Piping Condition			
a. Any sign of fuel distribution piping damage or deterioration?			
6. Pump Condition			
a. Are oil transfer pumps from tanker unloading area to storage tank in good operating condition?			✓
b. Are pumps leaking?			✓
c. Are oil transfer pumps from storage tank to Powerhouse in good operating condition?			✓
d. Are pumps leaking?			✓

NOTE: Regulated petroleum tanks have no instrumentation to be calibrated.

If any inspection points are checked yes, describe the deficiency and corrective actions taken: Paint Blistering, Bolts Rusting Cement on Dike Foundation Cracking Weeds Growing around Dike & Tank, Piping Rusting

Supervisor signature and date (only if deficiencies noted): [redacted]

Notes:

1. DO NOT ENTER DIKE AREA around tank without obtaining a confined space entry permit.
2. Report deficiencies to Supervisor immediately. Supervisor must sign this form if deficiencies are noted.
3. Inspections must be made at least once each week (Sunday through Saturday) during normal operations.

DUP 7992 (Rev. Lev. 1, 06/05)

WEEKLY INSPECTION CHECKLIST FOR ABOVEGROUND STORAGE TANKS

Bldg. No. 3807 **Tank No.** _____ **RFA No.** 28219 **Area:** NG1

Inspector (print name): [redacted] **Signature:** [redacted]

Date of Inspection: 4-3-2011 **Time of Inspection:** 1035

Inspection Point	YES	NO	N/A
1. Hazardous Conditions			
a. Tripping hazards in area?		✓	
b. Other potential safety hazards? (i.e ladders or walkways need repair?)		✓	
2. Leak Indicators			
a. Stained or discolored soil around dike?		✓	
b. Leaks from tank, dike, piping systems, tank loading / unloading area, etc.?		✓	
c. Inlet or outlet piping systems showing signs of leakage?		✓	
d. Does standing water in dike have an oily sheen or discoloration?		✓	
e. Is there presence of a petroleum odor?		✓	
3. Dike Area and Condition			
a. Is there an excessive accumulation of water in the dike?		✓	
b. Are dike drain valves unlocked or unplugged?		✓	
c. Any sign of dike damage or deterioration?	✓		
d. Is there presence of any vegetation in dike floor or walls?		✓	
4. Tank Condition			
a. Tank showing any signs of damage or deterioration? (shell, paint blisters or peeling, welds, Fasteners, seams, rust)	✓		
b. Tank foundation showing any signs of damage or deterioration?		✓	
c. Are valves used to fill the tank unlocked?	✓		
d. Are valves or fittings used to drain the tank unlocked or unplugged?		✓	
5. Piping Condition			
a. Any sign of fuel distribution piping damage or deterioration?		✓	
6. Pump Condition			
a. Are oil transfer pumps from tanker unloading area to storage tank in good operating condition?			✓
b. Are pumps leaking?			✓
c. Are oil transfer pumps from storage tank to Powerhouse in good operating condition?			✓
d. Are pumps leaking?			✓

NOTE: Regulated petroleum tanks have no instrumentation to be calibrated.
If any inspection points are checked yes, describe the deficiency and corrective actions taken:
3c and 4a - rust
4d - not required
Note - NG1 is in standby and this tank is empty.

Supervisor signature and date (only if deficiencies noted): [redacted]

Notes:
1. DO NOT ENTER DIKE AREA around tank without obtaining a confined space entry permit.
2. Report deficiencies to Supervisor immediately. Supervisor must sign this form if deficiencies are noted.
3. Inspections must be made at least once each week (Sunday through Saturday) during normal operations.

DUP 7992 (Rev. Lev. 1, 06/05)

WEEKLY INSPECTION CHECKLIST FOR ABOVEGROUND STORAGE TANKS

Bldg. No. 3807 Tank No. _____ RFA No. 28219 Area: NG I

Inspector (print name): [redacted] Signature: [redacted]

Date of Inspection: 3/27/11 Time of Inspection: 1100

Inspection Point	YES	NO	N/A
1. Hazardous Conditions			
a. Tripping hazards in area?		✓	
b. Other potential safety hazards? (i.e ladders or walkways need repair?)		✓	
2. Leak Indicators			
a. Stained or discolored soil around dike?		✓	
b. Leaks from tank, dike, piping systems, tank loading / unloading area, etc.?		✓	
c. Inlet or outlet piping systems showing signs of leakage?		✓	
d. Does standing water in dike have an oily sheen or discoloration?		✓	
e. Is there presence of a petroleum odor?		✓	
3. Dike Area and Condition			
a. Is there an excessive accumulation of water in the dike?		✓	
b. Are dike drain valves unlocked or unplugged?		✓	
c. Any sign of dike damage or deterioration?	✓		
d. Is there presence of any vegetation in dike floor or walls?		✓	
4. Tank Condition			
a. Tank showing any signs of damage or deterioration? (shell, paint blisters or peeling, welds, Fasteners, seams, rust)	✓		
b. Tank foundation showing any signs of damage or deterioration?		✓	
c. Are valves used to fill the tank unlocked?	✓		
d. Are valves or fittings used to drain the tank unlocked or unplugged?		✓	
5. Piping Condition			
a. Any sign of fuel distribution piping damage or deterioration?		✓	
6. Pump Condition			
a. Are oil transfer pumps from tanker unloading area to storage tank in good operating condition?			✓
b. Are pumps leaking?			
c. Are oil transfer pumps from storage tank to Powerhouse in good operating condition?			
d. Are pumps leaking?			

NOTE: Regulated petroleum tanks have no instrumentation to be calibrated.

If any inspection points are checked yes, describe the deficiency and corrective actions taken: rust / paint blister

Weeds up around wall

Tank is empty - NOT in use

Supervisor signature and date (only if deficiencies noted): [redacted]

Notes:

1. DO NOT ENTER DIKE AREA around tank without obtaining a confined space entry permit.
2. Report deficiencies to Supervisor immediately. Supervisor must sign this form if deficiencies are noted.
3. Inspections must be made at least once each week (Sunday through Saturday) during normal operations.

Attachment SPCC-3: [redacted]

Multi-Media Inspection Report

Radford Army Ammunition Plant
May 16 to 20, 2011

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Attachment SPCC-4: AST Closure Report for Inactive Oleum Plant two No. 2 Fuel Oil ASTs at Building [redacted]

Multi-Media Inspection Report

Radford Army Ammunition Plant
May 16 to 20, 2011

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AST CLOSURE REPORT

Inactive Oleum Plant
Two No. 2 Fuel Oil ASTs - Building [redacted]
Radford Army Ammunition Plant
Radford, Virginia

DEQ Tracking Number: 2009-2054

Prepared for:

Alliant Techsystems
Radford Army Ammunition Plant
Route 114, P.O. Box 1
Radford, Virginia 24143-0100

Prepared by:
EEE Consulting, Inc.
201 Church Street, Suite C
Blacksburg, VA 24060
(540) 953-0170
Project #: 09-729

April 2009

3e EEE Consulting, Inc.
Environmental, Engineering and Educational Solutions

EEE Consulting, Inc.
Environmental, Engineering and Educational Solutions

April 13, 2000

[redacted]
Environmental Engineering
Alliant Techsystems
Radford Army Ammunition Plant
Route 114, P.O. Box 1
Radford, VA 24143-0100

Re: Inactive SAR Oleum Plant AST Closure Documentation
Two, 169,000-gallon No. 2 Fuel ASTs
EEE Project Number 09-729

Dear [redacted]

On behalf of Alliant Techsystems (ATK), EEE Consulting, Inc. (EEE) has completed documentation activities for the closure of two (2) No. 2 fuel oil aboveground storage tanks (ASTs) at the Inactive SAR Oleum Plant, Radford Army Ammunition Plant (RAAP), Radford, Virginia. The following sections of this letter report document the closure activities that were performed in accordance with the technical requirements of Section 120 in the Facility Aboveground Storage Tank Regulation (9 VAC 25-91-10 et seq.).

Background

The former SAR Oleum Plant contains two (2), inactive 169,000-gallon ASTs that were previously utilized to store No. 2 fuel. The subject ASTs were not registered with the Virginia Department of Environmental Quality (DEQ) because they have been out of service since the 1980s, which was prior to the promulgation of 9 VAC 25-91-10 et seq. A plan view of the inactive plant and associated No. 2 fuel oil ASTs is presented as **Attachment I**.

Regulatory Agency Notification

On February 16, ATK personnel notified staff at the DEQ-Blue Ridge Regional Office (BRRO) of the impending AST closures. The notification was made 14-days prior to the implementation of closure activities because a building permit was not required to close the ASTs at this federally-owned facility. The AST Registration Form 7540 that was completed to denote AST closure activities is included as **Attachment II**.

AST Closure Assessment Activities

On March 5, 2009, EEE personnel utilized a stainless steel bucket auger to collect representative soil samples in proximity to both No. 2 fuel oil ASTs and associated appurtenances to confirm the presence or absence of petroleum hydrocarbons. Each hand auger boring was advanced to approximately four (4)-ft. below ground surface (BGS). The locations of the eight (8) soil borings, along with corresponding residual-phase concentrations, are depicted on **Attachment III**. Representative photographs of the boring advancements are presented in **Attachment IV**.

A representative soil sample was collected from the bottom of each boring terminus. Each discreet sample was prepared for laboratory analysis in accordance with the following procedures:

- Powder-free nitrile gloves were donned to reduce the potential for sample cross-contamination.
- The bucket auger was cleaned before the advancement of each boring.
- A pre-cleaned plastic bucket was utilized to transfer each discreet soil sample into one (1), four (4)-ounce pre-cleaned glass jars sealed with a Teflon®-lined lid.
- Sample jars were appropriately labeled.
- Sample jars were placed on ice in a cooler to maintain an appropriate temperature (<4°C) while in transit to the laboratory under appropriate Chain-of-Custody.

The soil samples were submitted to a certified environmental laboratory for the analysis of total petroleum hydrocarbons – diesel range organics (TPH-DRO) by the appropriate EPA Method. The residual-phase analytical results are summarized in **Table 1, Attachment V**. Copies of the certified laboratory report and chain-of-custody (COC) are presented as **Attachment VI.**

A review of **Table 1** indicates that residual-phase petroleum was not detected in the soil samples collected from SB-1 through SB-3 and SB-5 through SB-8. The soil sample obtained from SB-4 at four (4)-ft. BGS contained a TPH-DRO residual-phase concentration of 300-milligrams per kilogram (mg/kg). The action level for reporting a release of petroleum to the environment to the Virginia Department of Environmental Quality (DEQ) is 100-mg/kg TPH. Based on the residual-phase petroleum concentration detected in SB-4, ATK personnel reported the confirmed petroleum release to the DEQ-Blue Ridge Regional Office (BRR) on the afternoon of March 20, 2009. It should be noted that the release was reported within 24-hours of receiving the residual-phase analytical data from the certified environmental laboratory. Subsequently, the DEQ issued Pollution Complaint (PC) No. 2009-2054, and requested the collection of another soil sample from SB-4 to determine if elevated residual-phase concentrations were present at depths greater than 4-ft. BGS. Methodologies utilized to collect this soil sample and the corresponding analytical result will be presented in a subsequent section of this letter report.

AST Closure Activities

Clean Harbors Environmental Services completed closure operations at both No. 2 fuel oil ASTs between March 25 and March 27, 2009. Activities completed to close both ASTs in accordance with the applicable requirements of 9 VAC 25-91-10 et seq., and the Spill Prevention, Control, and Countermeasures Regulations (40 CFR Part 112) are summarized below.

- At the time of closure, the ASTs only contained petroleum residuals.
- A representative sample of the petroleum residuals was collected to characterize the waste stream prior to disposal. The subject sample was submitted to a certified environmental laboratory for the analysis of the 8 RCRA Metals, Percent Solids, Flashpoint, and Total Halogens by the appropriate EPA Methods. The analytical results indicated that this waste stream did not display hazardous characteristics. Therefore, it was managed as a non-hazardous, petroleum-impacted waste stream. A copy of the analytical results is included in **Attachment VII**.
- The interiors of the AST shell, roof, and bottom were cleaned with pressurized water to remove the petroleum residuals. A total of 1410-gallons of rinsate/petroleum residuals were generated during cleaning operations. The resulting rinsate was evacuated with a vacuum truck and transported for disposal at a licensed treatment facility. A copy of the disposal manifest is included as **Attachment VII**.
- All aboveground transfer piping was disconnected at the piping/AST interface and fitted with a blank flange.
- The drain valve on the bottom of each AST was locked in the closed position.
- The AST entry manways were bolted closed and labeled with the wording "Out of Service".
- Each AST was labeled as "Permanently Closed"; listing the date of closure, which was March 27, 2009.
- The only AST nozzles left open were the normal vents, which are positioned on the tank roofs.

Representative photographs of AST closure operations are included in **Attachment IV**.

PC No. 2009-2054 Sampling Activities

On April 3, 2009, EEE personnel collected one representative soil sample from SB-4 at six (6)-ft. BGS. The sample was collected in accordance with the same procedures that were utilized to collect the eight (8) AST closure samples. The location of SB-4, along with the corresponding residual-phase concentration, is depicted on **Attachment III**.

The soil sample was submitted to a certified environmental laboratory for the analysis of TPH-DRO by the appropriate EPA Method. The residual-phase analytical results are summarized in **Table 1, Attachment V**. Copies of the certified laboratory report and chain-of-custody (COC) are presented as **Attachment VI**.

A review of **Table 1** indicates that residual-phase petroleum was not detected in the soil sample collected at 6-ft. BGS in SB-4. Based on this information, it appears that residual-phase petroleum impact is localized to the immediate vicinity of SB-4 at depths that are less than 4-ft. BGS.

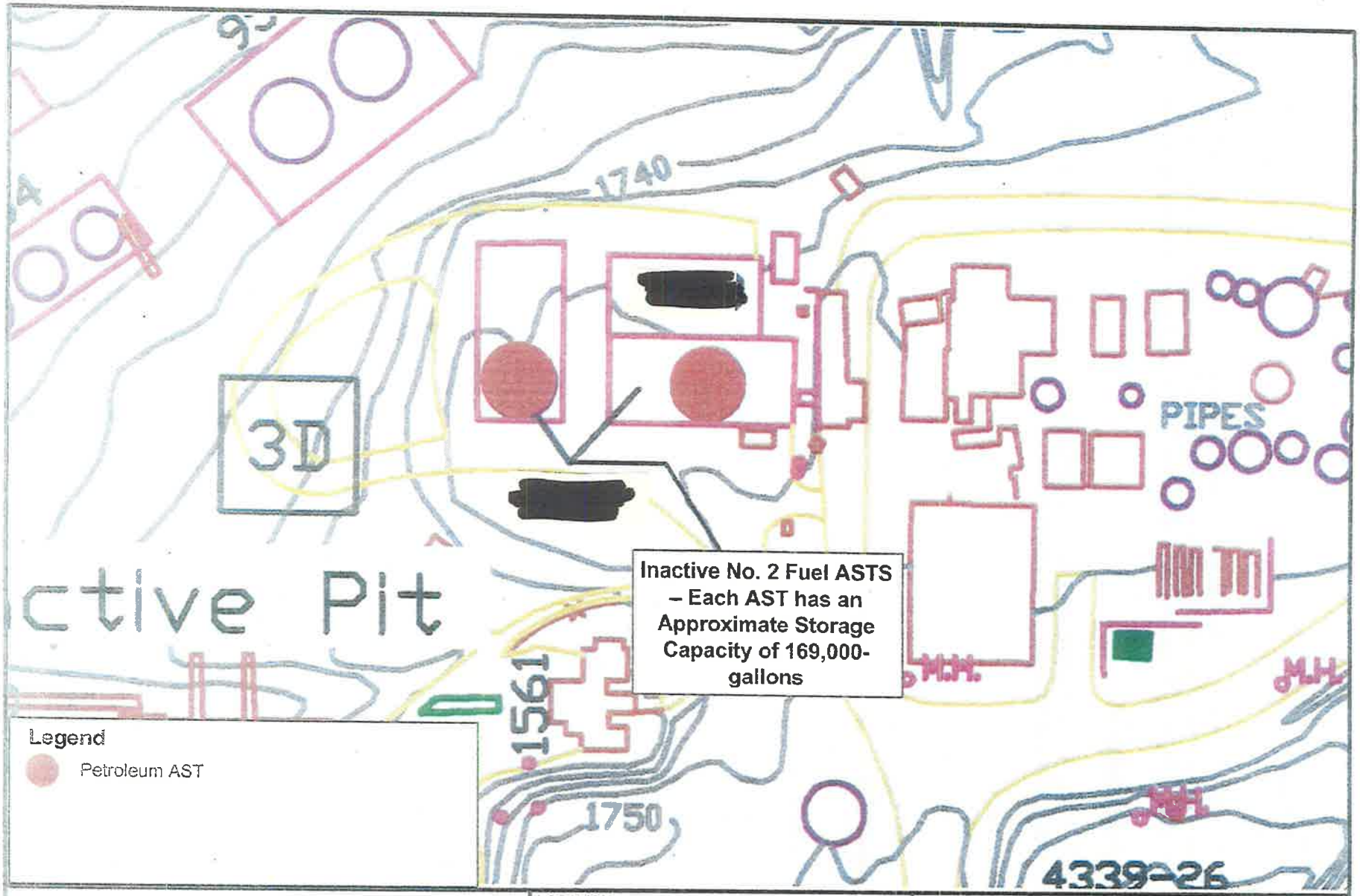
Acknowledgement

EEE appreciates the opportunity to be of service to ATK. If you have any questions concerning this report, please contact me at (540) 953-0170.

Sincerely,

EEE Consulting, Inc.
Chris Lalli
Associate

Attachments



3e EEE Consulting, Inc.
Environmental, Engineering and Educational Solutions

LOCATION:
RAAP
MONTGOMERY COUNTY, VA

DATE:
February 16, 2009

DRAWING FOR:
ATTACHMENT I
SAR Oleum Plant – Bldg [redacted]
AST Closure Documentation

Note: Maps Provided by ATK Systems – January 5, 2006.

Virginia DEQ Form 7540-AST (10/08)

Registration for Facility and Aboveground Storage Tank (AST)

[Only for AST(s) >660 gallons]

Mail Fee and this Form to:
Department of Environmental Quality
Office of Financial Management
P.O. Box 1104
Richmond, VA 23218

STATE USE ONLY

Number ID	
Date Received	
Date Entered	
Entered By	
Comments	

$ Indicates fee is required — I. PURPOSE OF NOTIFICATION — Check all that apply

- ☐ $ New Facility and Initial Registration
- ☐ $ New AST Installation at Existing Facility
- ☐ $ Replacement of AST at Existing Facility
- ☐ $ Renewal Registration (every 5 years) ☐ With changes ☐ With no changes
- ☐ $ Conversion or Brought Back Into Use
- ☐ $ Change of Owner or Title

AMENDMENTS

- ☐ Tank/Piping Major Repair/Upgrade
- ☐ Change in Service (change in stored petroleum)
- ☐ Change in Use (no longer stores petroleum)
- ☒ Piping Closure
- ☒ AST Closure
- ☐ Relocation (existing AST moved on site)
- ☐ Alteration/Retrofit
- ☐ Change in Operator
- ☐ Removal
- ☐ Other (specify):_____

II. OWNER OF TANKS

A. Owner Name: **United States Army**
B. Street Address: **Route 114, P.O. Box 1**
C. City, State, Zip: **Radford, VA 24143-0001**
D. Phone Number: **540-639-[redacted]**
E. Fax Number: **540-639-8635**
F. E-mail Address:
G. Name of Previous Owner (if applicable):

III. LOCATION OF TANKS

A. Facility Name: **Radford Army Ammunition Plant**
B. Street Address (P.O. Box not acceptable): **Route 114**
C. City, State, Zip: **Radford, VA 24143-0001**
D. County: **Montgomery**
E. Phone Number: **540-639-[redacted]**
F. Fax Number: **540-639-8635**
G. E-mail Address:
H. Previous Name of Facility (if applicable):

IV. CONTACT PERSON

A. Contact Person Name and Title: **[redacted], Environmental Specialist**
B. Street Address: **Route 114, P.O. Box 1**
C. City, State, Zip: **Radford, VA 24143-0001**
D. Phone Number: **540-639-[redacted]**
E. Fax Number: **540-639-8635**
F. E-mail Address: **[redacted]**

V. OPERATOR

A. Operator Name: **Alliant Techsystems (ATK)**
B. Street Address: **Route 114, P.O. Box 1**
C. City, State, Zip: **Radford, VA 24143-0001**
D. Phone Number: **540-639-[redacted]**
E. Fax Number: **540-639-8109**
F. E-mail Address: **[redacted]**

VI. TYPE OF OWNER Select from below

- ☒ Federal Government
- ☐ Commercial
- ☐ State Government
- ☐ Private
- ☐ Local Government

VII. TYPE OF FACILITY Select from below

- ☐ Retail Gas Station
- ☐ Federal Non-Military
- ☐ Commercial
- ☐ Farm
- ☐ Petroleum Distributor
- ☒ Federal Military
- ☐ Industrial
- ☐ Residential
- ☐ Local Government
- ☐ State Government
- Other (specify): _____

VIII. REGISTRATION / RENEWAL FEE

If $ is checked in "I. PURPOSE OF NOTIFICATION" use the following schedule to determine fee:

An individual AST (new, existing, replaced or brought back into use after permanent closure) or a facility with one AST = $25.
A facility with two or more ASTs or two facilities with one AST at each facility = $50.
Two facilities with one AST at first facility and two or more at the second facility or three facilities with one AST at each facility = $75.
Two or more facilities with more than two ASTs at each facility = $100. NOTE: no payment/fee exceeds $100.

Fee shall be paid in United States currency by check, draft, or postal money order made payable to the "Treasurer of Virginia".
Attach check, draft, or postal money order to this form (DEQ form 7540-A).
Mail to: Department of Environmental Quality, Office of Financial Management, P.O. Box 1104, Richmond, VA 23218.

Fee enclosed ☐ YES ☒ NO **Amount enclosed** ☐ $25 ☒ $50 ☐ $75 ☐ $100

IX. OWNER CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate and complete. I understand that the owner of the aboveground storage tank(s) hereby registered is responsible for compliance with the requirements of Virginia Regulation 9 VAC 25-91-10 et seq., among other requirements. I warrant and represent that I am the owner or that I have the authority to sign this certification on behalf of the owner.

Name and Title _____ Signature _____ Date (MM/DD/YYYY) ___/___/___

X-A. DESCRIPTION FOR NEW INSTALLATIONS, RENEWALS, AND AMENDMENTS Check all that apply

Owner Tank Identification Number	East AST		West AST							
DEQ Tank Identification Number										
Status	☐ New ☐ Renewal ☒ Amendment		☐ New ☐ Renewal ☒ Amendment		☐ New ☐ Renewal ☐ Amendment		☐ New ☐ Renewal ☐ Amendment		☐ New ☐ Renewal ☐ Amendment	
Date of Installation (MM/DD/YYYY)	__/__/____		__/__/____		__/__/____		__/__/____		__/__/____	
Tank Capacity (Gallons) >660	169,000		169,000							
Materials of Construction	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
Bare Steel Welded	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Bare Steel Riveted	☐		☐		☐		☐		☐	
Insulated Steel	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Steel w/Concrete	☐		☐		☐		☐		☐	
Galvanized Steel		☐		☐		☐		☐		☐
Fiberglass/FRP/PVC		☐		☐		☐		☐		☐
Copper/Brass		☐		☐		☐		☐		☐
Unknown	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Other (specify):	Painted Steel Welded		Painted Steel Welded							
Tank & Piping Type	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
Single Wall	☒	☒	☒	☒	☐	☐	☐	☐	☐	☐
Double Wall	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Totally Above the Ground	☒	☒	☒	☒	☐	☐	☐	☐	☐	☐
Cathodic/Corrosion Protected	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Below the Ground	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Lined Interior	☐		☐		☐		☐		☐	
Double Bottom	☐		☐		☐		☐		☐	
Portable/Skid	☐		☐		☐		☐		☐	
Horizontal	☐		☐		☐		☐		☐	
Shop Fabricated	☐		☐		☐		☐		☐	
Vaulted Concrete Above the Ground	☐		☐		☐		☐		☐	
Vaulted-below grade	☐		☐		☐		☐		☐	
Other (specify):	Vertical		Vertical							
Foundation Type	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
Earthen	☐		☐		☐		☐		☐	
Concrete w/Coating or Release Prevention Barrier (RPB)	☐		☐		☐		☐		☐	
Steel/Saddle/Runner/Beam	☐		☐		☐		☐		☐	
Concrete	☒		☒		☐		☐		☐	
Ring Wall	☐		☐		☐		☐		☐	
Unknown	☐		☐		☐		☐		☐	
Other (specify):										
Roof Type	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
Floating Internal	☐		☐		☐		☐		☐	
Floating External	☒		☒		☐		☐		☐	
Fixed Cone-welded/bolted	☐		☐		☐		☐		☐	
Breather	☐		☐		☐		☐		☐	

Double Deck ☐ ☐ ☐ ☐ ☐

X-A. DESCRIPTION FOR NEW INSTALLATIONS, RENEWALS, AND AMENDMENTS (Continued) Check all that apply

Roof Type (continued)	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
Pontoon	☐		☐		☐		☐		☐	
Lifter	☐		☐		☐		☐		☐	
Pan-Flat	☐		☐		☐		☐		☐	
None (i.e.; Horizontal Tank)	☐		☐		☐		☐		☐	
Other (specify):										

Substance Stored	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
Gasoline	☐		☐		☐		☐		☐	
Diesel	☐		☐		☐		☐		☐	
Asphalt (cut back)	☐		☐		☐		☐		☐	
Heating Oil	☒		☒		☐		☐		☐	
Motor Fuel	☐		☐		☐		☐		☐	
Kerosene	☐		☐		☐		☐		☐	
Used Oil	☐		☐		☐		☐		☐	
Lubricating Oil	☐		☐		☐		☐		☐	
Bunker C	☐		☐		☐		☐		☐	
Jet Fuel	☐		☐		☐		☐		☐	
Aviation Gasoline	☐		☐		☐		☐		☐	
Other (specify):										

X-B. DESCRIPTION FOR NEW INSTALLATIONS, RENEWALS, AND AMENDMENTS

(ONLY COMPLETE IF FACILITY AST TOTAL STORAGE CAPACITY IS 25,000 GALLONS OR MORE) Check all that apply

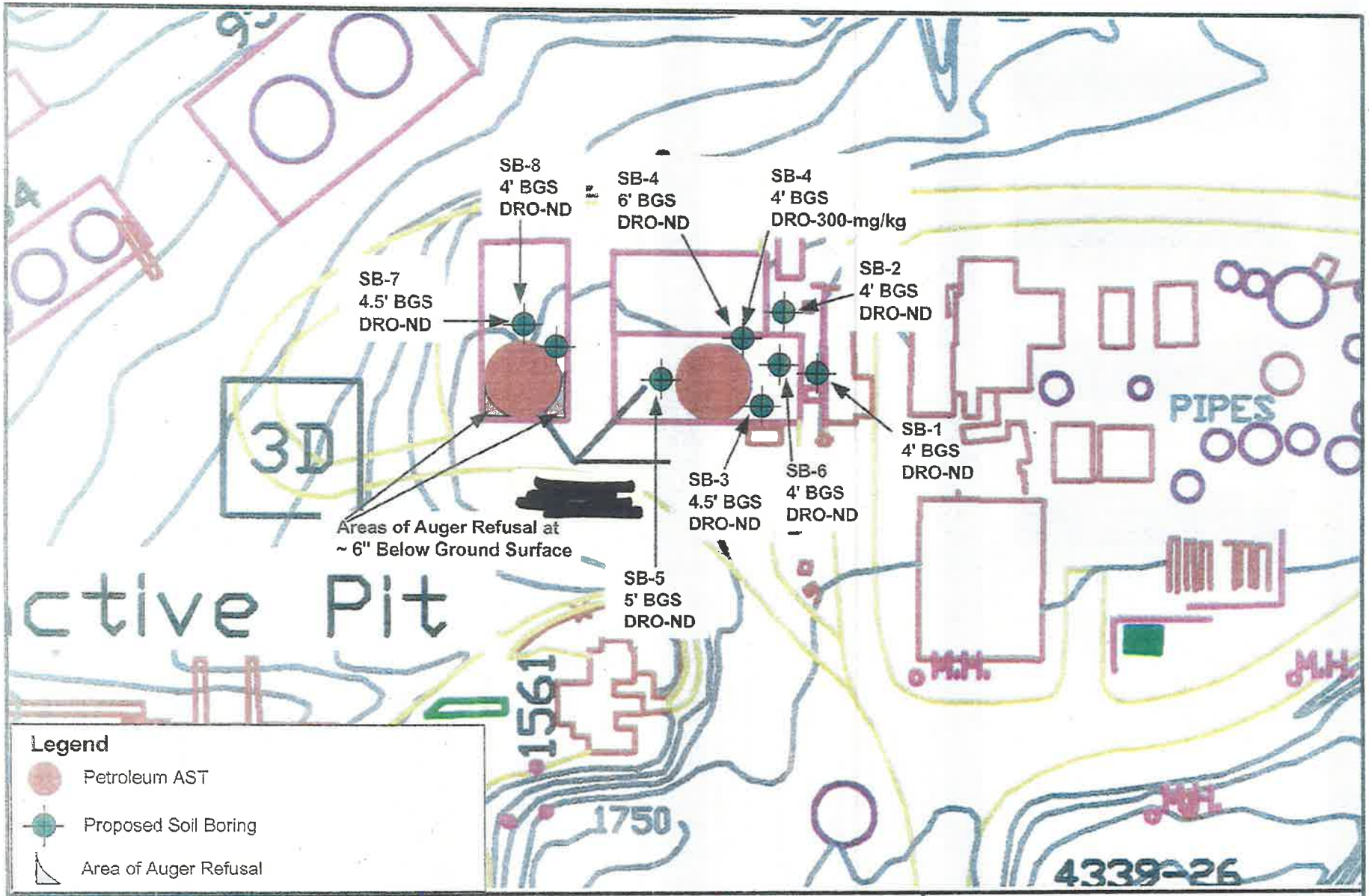
Oil Discharge Contingency Plan FC-02-0622 (ODCP Number) — 02/08/2008 (Date Approved (MM/DD/YYYY)) — **Facility AST total storage capacity (aggregate of ASTs > 660 gallons)** 78,800 Gallons

	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
Inventory Control	☐		☐		☐		☐		☐	
Safe Fill and Shutdown Procedure	☐		☐		☐		☐		☐	
Piping Pressure Test (hydro/API 570/inert) Last Test Date (MM/DD/YYYY)	__/__/____		__/__/____		__/__/____		__/__/____		__/__/____	
Secondary Containment Date Certified by a PE (MM/DD/YYYY)	__/__/____		__/__/____		__/__/____		__/__/____		__/__/____	

Facility Financial Responsibility: ☐ Self Insurance ☐ Insurance ☐ Guarantee ☐ Letter of Credit ☐ Surety Bond ☐ Trust Fund

Release Detection Type	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
Groundwater Monitoring	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Visual Monitoring	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Vapor Monitoring	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Interstitial Monitoring	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
None	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Other (specify):	**Inactive AST**		**Inactive AST**							

Release Prevention Barrier	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
Double Bottom	☐		☐		☐		☐		☐	
Double Wall	☐		☐		☐		☐		☐	
Polyethylene Jacket	☐		☐		☐		☐		☐	
Dike/Berm Excavation Liner	☐		☐		☐		☐		☐	
Coated Concrete	☐		☐		☐		☐		☐	
None	☒		☒		☐		☐		☐	
Unknown	☐		☐		☐		☐		☐	
Other (specify):										



3e EEE Consulting, Inc.
Environmental, Engineering and Educational Solutions

LOCATION:
RAAP
MONTGOMERY COUNTY, VA

DATE:
April 9, 2009

DRAWING FOR:
ATTACHMENT III
SAR Oleum Plant – Bldg [redacted]
Soil Boring Locations and Corresponding Residual-Phase TPH-DRO Concentrations

Note: Maps Provided by ATK Systems – January 5, 2006.

X-B. DESCRIPTION FOR NEW INSTALLATIONS, RENEWALS, AND AMENDMENTS (Continued)

(ONLY COMPLETE IF FACILITY AST TOTAL STORAGE CAPACITY IS 25,000 GALLONS OR MORE) Check all that apply

Containment Type	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
Curbing	☐		☐		☐		☐		☐	
Weirs/Boom	☐		☐		☐		☐		☐	
Sorbent Material	☐		☐		☐		☐		☐	
Culverts/Gutters	☐		☐		☐		☐		☐	
Diversion Pool	☐		☐		☐		☐		☐	
Retention Pond	☐		☐		☐		☐		☐	
Dike/Berm/Wall	☒		☒		☐		☐		☐	
None	☐		☐		☐		☐		☐	
Unknown	☐		☐		☐		☐		☐	
Other (specify):	Earthen Floor		Earthen Floor							

X-C. DESCRIPTION FOR NEW INSTALLATIONS, RENEWALS, AND AMENDMENTS

(ONLY COMPLETE IF FACILITY TOTAL STORAGE CAPACITY IS ONE MILLION GALLONS OR MORE)

Formal Inspection (API 653)	Tank	Tank	Tank	Tank	Tank
Last External Inspection Date (MM/DD/YYYY)	__/__/____	__/__/____	__/__/____	__/__/____	__/__/____
Last Internal Inspection Date (MM/DD/YYYY)	__/__/____	__/__/____	__/__/____	__/__/____	__/__/____
Corrosion Protection (Tank)	Tank	Tank	Tank	Tank	Tank
Installation Date (MM/DD/YYYY)	__/__/____	__/__/____	__/__/____	__/__/____	__/__/____
Cathodic Protection (Buried Piping)	Piping	Piping	Piping	Piping	Piping
Installation Date (MM/DD/YYYY)	__/__/____	__/__/____	__/__/____	__/__/____	__/__/____

Groundwater Characterization Study Date Approved (MM/DD/YYYY): __/__/____

XI. CLOSURE IN PLACE, REMOVAL, OR CHANGE IN USE Check all that apply

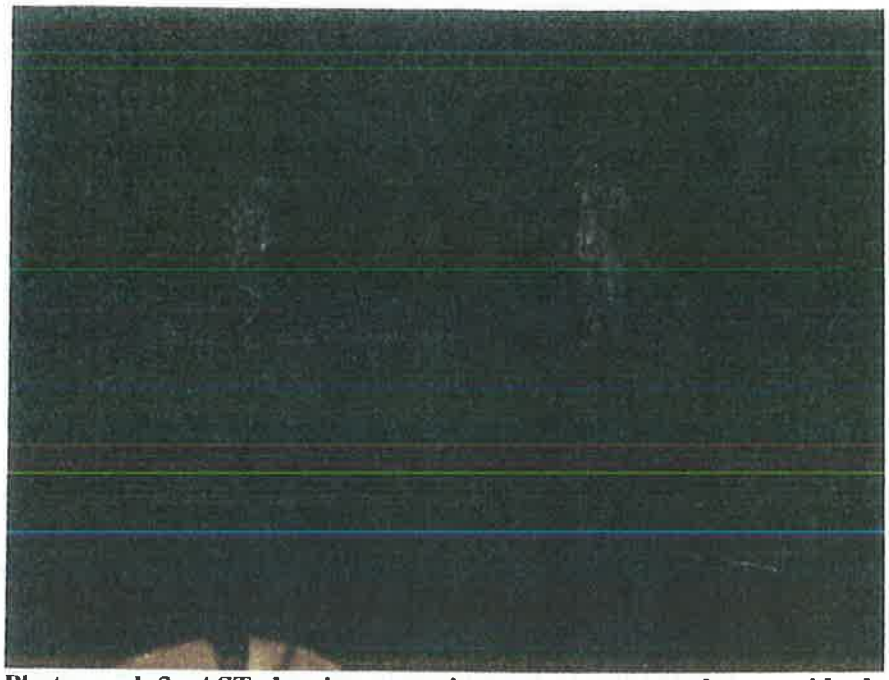
Tank and Piping Status	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping	Tank	Piping
Closed in Place	☒	☒	☒	☒	☐	☐	☐	☐	☐	☐
Removed/Dismantled	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Conversion/Change in Use (NO LONGER STORES PETROLEUM)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Closure Site Assessment Completed	☒ Yes	☒ Yes	☐ Yes	☐ Yes	☐ Yes	☐ Yes	☐ Yes	☐ Yes	☐ Yes	☐ Yes
A Completed Closure Site Assessment is comprised of the following items to be enclosed with this form: Site Map; Soil Sample Results; Copy of Building Permit; and Photographs of Sampled Area.	☐ No	☐ No	☐ No	☐ No	☐ No	☐ No	☐ No	☐ No	☐ No	☐ No
Evidence of a Leak Detected	☒ Yes	☒ Yes	☐ Yes	☐ Yes	☐ Yes	☐ Yes	☐ Yes	☐ Yes	☐ Yes	☐ Yes
	☐ No	☐ No	☒ No	☒ No	☐ No	☐ No	☐ No	☐ No	☐ No	☐ No
Date Last Used (MM/DD/YYYY)	__/__/____		__/__/____		__/__/____		__/__/____		__/__/____	
Date Closed (MM/DD/YYYY)	03/27/2009		03/27/2009		__/__/____		__/__/____		__/__/____	

Comments:

Both ASTs have been inactive since the 1980s.

Photograph 1: Installation of soil boring, SB-3 on March 5, 2009.

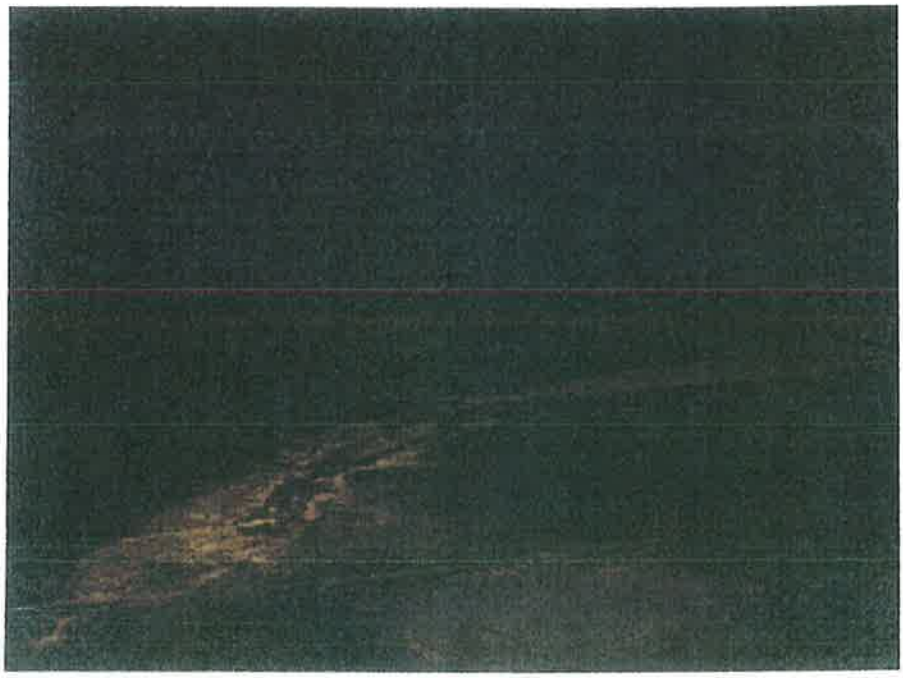
Photograph 2: Corresponding depth at SB-4 following installation on March 5, 2009.



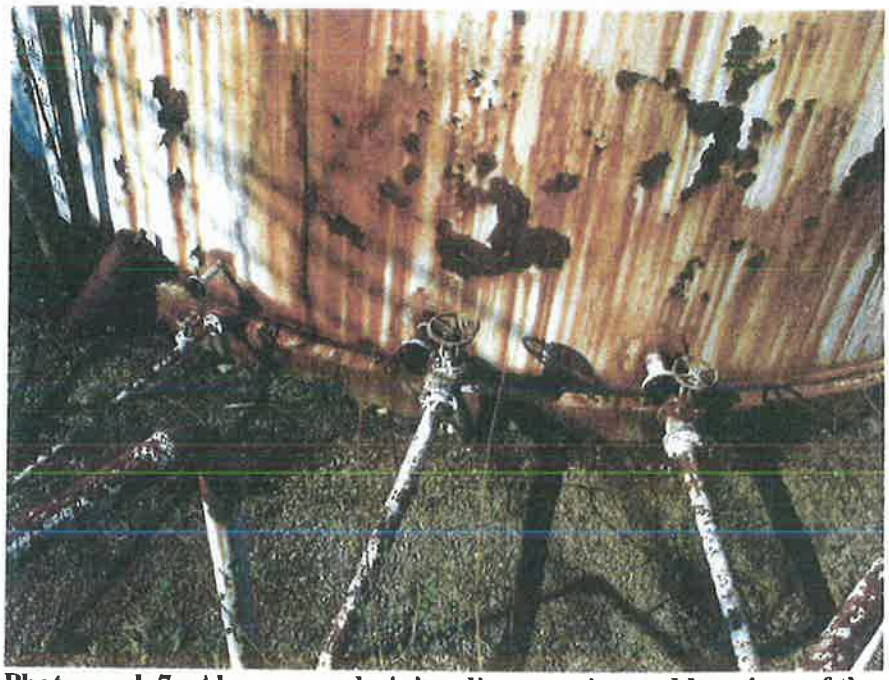
Photograph 3: AST cleaning operations to remove petroleum residuals.

Photograph 4: Vacuum truck utilized to remove AST rinsate & petroleum residuals.

Photograph 5: Interior floor of AST following cleaning & rinsate removal.

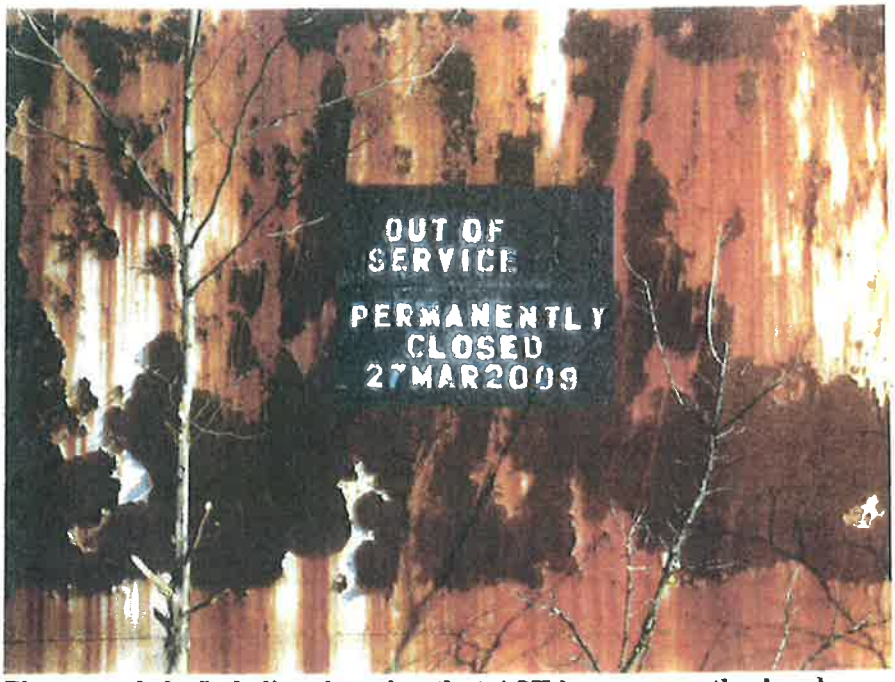


Photograph 6: Interior floor and shell of AST following cleaning & rinsate removal.



Photograph 7: Aboveground piping disconnection and locations of the blank flanges.

Photograph 8: Bolted shut and labeled AST entry manway.



Photograph 9: Labeling denoting that AST is permanently closed, including the date of closure.

Table 1: Soil Boring Analytical Data - March 6, 2009
All units in mg/kg - dry weight
RAAP Oleum Plant AST Closure

Location Laboratory I.D. Depth Below Grade	SB-1 0903471-01A 4 feet		SB-2 0903471-02A 4 feet		SB-3 0903471-03A 4.5 feet		SB-4 0903471-04A 4 feet		SB-4* 0904295-01A 6 feet		SB-5 0903471-05A 5 feet		SB-6 0903471-06A 4 feet		SB-7 0903471-07A 4.5 feet		SB-8 0903471-08A 4 feet	
	Result	*RL*	Result	*RL*	Result	*RL*	Result	*RL*	Result	*RL*	Result	*RL*	Result	*RL*	Result	*RL*	Result	*RL*
TPH-DRO	ND	*3.88*	ND	*3.92*	ND	*3.98*	**300**	*3.91*	ND	*4.0*	ND	*3.98*	ND	*3.88*	ND	*4.0*	ND	*3.97*
Surrogate Recovery	93.7%		97.7%		98.1%		106.0%		88.0%		95.3%		96.5%		95.1%		90.2%	
Acceptance Limits	62.1 - 151%		62.1 - 151%		62.1 - 151%		62.1 - 151%		62.1 - 151%		62.1 - 151%		62.1 - 151%		62.1 - 151%		62.1 - 151%	

Notes:

RL = Laboratory Reporting Limit

Bold / Underlined text = Concentration reported ≥ RL

ND = Below Laboratory Detection Limit

*Sample collected on April 3, 2009 per DEQ request

REI Consultants, Inc. **Analytical Results** **Date:** *17-Mar-09* 210362

CLIENT: ALLIANT AMMUNITION & POWDER CO.
Client Sample ID: WEST
Project: I815070510
Site ID: OLEUM PLANT FUEL OIL TANK

WorkOrder: 0903864 **Lab ID** 0903864-01A
DateReceived 3/11/2009
Collection Date: 3/9/2009 2:00:00 PM
Matrix: LIQUID

Analyses	Result	Units	Qual	PQL	MCL	Prep Date	Date Analyzed
TCLP METALS BY ICP			SW1311/6010C			Analyst: LW	
Arsenic	ND	mg/L		2.50	5.00	03/12/09 8:38 PM	03/16/09 10:01 AM
Barium	ND	mg/L		0.50	100	03/12/09 8:38 PM	03/16/09 10:01 AM
Cadmium	ND	mg/L		0.10	1.00	03/12/09 8:38 PM	03/16/09 10:01 AM
Chromium	ND	mg/L		0.50	5.00	03/12/09 8:38 PM	03/16/09 10:01 AM
Lead	ND	mg/L		2.50	5.00	03/12/09 8:38 PM	03/16/09 10:01 AM
Selenium	ND	mg/L		2.50	1.00	03/12/09 8:38 PM	03/16/09 10:01 AM
Silver	ND	mg/L		0.25	5.00	03/12/09 8:38 PM	03/16/09 10:01 AM
TCLP MERCURY			SW1311/7470			Analyst: CGW	
Mercury	ND	mg/L		0.002	0.200	03/12/09 8:40 PM	03/12/09 11:01 AM
TCLP PERCENT SOLIDS			SW1311			Analyst: KD	
Percent Solids	<0.5	wt%		NA	NA	03/12/09 12:00 AM	03/12/09 6:15 PM
FLASHPOINT			SW1010			Analyst: CDS	
Ignitability	No Flash to 80	°C		NA	NA		03/12/09 12:00 AM
TOTAL HALOGENS			SW5050/9056			Analyst: CW	
Total Halogens, as chloride	ND	mg/Kg		100	NA		03/13/09 5:30 AM

Key: MCL Maximum Contaminant Level
MDL Minimum Detection Limit
NA Not Applicable
ND Not Detected at the PQL or MDL
PQL Practical Quantitation Limit
TIC Tentatively Identified Compound, Estimated Concentration

Qualifiers: B Analyte detected in the associated Method Blank
E Estimated Value above quantitation range
H Holding times for preparation or analysis exceeded
S Spike/Surrogate Recovery outside accepted recovery limits
* Value exceeds MCL or Regulatory Limits

GARCO, Inc.
NON-HAZARDOUS WASTE PROFILE

2503 N. Fayetteville Street
Asheboro, NC 27203
Phone: (336) 683-0911
Fax: (336) 683-0811

Waste Stream: #2 Fuel Oil/Water
Process Generating: Tank Cleanings

Generator Name: Alliant Techsystems
Facility Address: PO Box 1, Route 114
Radford, VA 24143

Technical Contact: [redacted]
Phone: 540-639-7668 or 8722
Invoice Information: Clean Harbors Inc. Attn: Jim Poch

Physical Characteristics

Physical State: ☒Liquid ☐Semi-Solid ☐Solid ☐Other
Layers: ☐None ☒Bi-Layer ☐Multi-Layer
Free Liquids: ☐Yes ☐No % Liquids 90 % Solids 10
Pumpable: ☒Yes ☐No
Viscosity: ☐Low ☒Medium ☐High
Color: dark
Flash Point: >140 deg F
pH: 7
Odor: Mild
BTU/Lb: approx 2000
Reactive with:

Is this waste considered explosive?	☐Yes	☒No
Is this waste considered infectious?	☐Yes	☒No
Does this waste contain dioxin, pesticides or PCBs?	☐Yes	☒No
Does this waste contain spent solvents?	☐Yes	☒No
Is this waste petroleum related?	☒Yes	☐No

Anticipated Volume/Frequency: 2000 gallons

Physical/Chemical Constituents	
#2 Fuel Oil	80 %
Water	10 %
Sediment	10 %
	%
	%
	%
	%
Total	100 %

Analytical Information: ☒See Attached ☐None Currently Available
Special Handling Information:
Applicable RCRA Waste Codes: N/A
DOT Shipping Name: Non DOT Regulated Fuel Oil/Water Mixture
Hazard Class: ____ UN/NA ____ Packing Group: ____

Generator's Certification:

I hereby certify that the above and attached description is complete and accurate to the best of my knowledge and ability to determine that no deliberate or willful omissions of composition properties exist and that all known or suspected hazards have been disclosed. I certify that the materials tested are representative of all materials described by this profile.

[redacted] [redacted] 3/18/2009

Generator's Signature Printed Name Date

GARCO Acceptance

GARCO Management *SUB-D* *SOL* *WWT* *REC*

Shipping Order

Shipping Order No. AS 22355

Date: 3-25-09 Page 1 Of 1

Ship From:	Ship To:	Ship Via:
Alliant Techsystems, Inc. Radford Army Ammunition Plant P.O. Box 1 Route 114 Radford, VA 24141	GARCO, INC. 2503 N. FAYETTEVILLE STREET ASHEBORO, NC 27203	Vendor's Vac-Truck

FOB Point: Freight Terms:

Item	Quantity to Ship	Unit of Measure	Part # or Material Code	Description	Quantity Shipped	Net Weight	Gross Weight
1		Gallons		#2 Fuel Oil/Water From Tank Cleaning at Bldg 4431	1410	GALLONS	

Customer Order/Contract Number/PO Number	Bill to	Dept	Charge Code
AR3011		815	I815070510

SHIPPING USE ONLY

Carrier	Vendor	Hazardous Materials—Pack Layout Required		Packed By	Date
Trailer No.		Net Explosive Wt.			
Car No. & Initials		Shipping Hazard Class		Inspected By	Date
Seal No.		Ex Number			
B/L Number		Un Ident. Number		Number of Units	Cubic Feet
Shipment No		Competent Authority No.			
Number of Cartons				Total Weight	B/L Number
Shipment Value					

Originated by: [redacted] Date: 12/17/02 Phone No: 693-7529 Dept No.:

Shipment Authorization: ☐ Description Sheet ☐ C of C/C of A ☐ Emer. Ship DUP-6677 ☐ MCA LAP Samples

Program Manager: *Quality Engineer: Government: Property Control:

Traffic: Shipped by: [redacted] Received by: Charles J Bulston

DUP2565A Rev ND 12/16/02 *Not applicable to MCA LAP

NON-HAZARDOUS WASTE MANIFEST

Please print or type (Form designed for use on elite (12 pitch) typewriter)

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. 032509

2. Page 1 of 1

3. Generator's Name and Mailing Address
Alliant Techsystems
P.O. Box 1, Route 114
Radford, VA 24143

4. Generator's Phone (540) 639 - [redacted]

5. Transporter 1 Company Name
Clean Harbors Environmental Svc

6. US EPA ID Number
MAD039322250

7. Transporter 2 Company Name

8. US EPA ID Number

9. Designated Facility Name and Site Address
GARCO
2503 N. Fayetteville Street
Asheboro, NC 27203

10. US EPA ID Number

A. State Transporter's ID

B. Transporter 1 Phone 336-342-6106

C. State Transporter's ID

D. Transporter 2 Phone

E. State Facility's ID

F. Facility's Phone 336-688-0911

11. WASTE DESCRIPTION	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt./Vol.
a. Non-Hazardous, Non DOT Regulated Material (Fuel Oil/water mixture from tank bottoms)	1	TT	01410	G
b.				
c.				
d.				

GENERATOR

G. Additional Descriptions for Materials Listed Above

H. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
TRUCK # 489
NC 2252365

16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Printed/Typed Name [redacted] Signature [redacted] Date Month 03 Day 25 Year 09

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name Jeff Bullins Signature Jeff Bullins Date Month 03 Day 25 Year 09

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name Signature Date Month Day Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of the waste materials covered by this manifest, except as noted in item 19.

Printed/Typed Name Signature Date Month Day Year

225 Industrial Park Drive
Beaver, WV 25813
TEL: 304.255.2500
FAX: 304.255.2572
Website: www.reiclabs.com

improving the environment, one client at a time...

Report Narrative

Project Manager:: **Scott Gross**

WO#: **0903471**
Date: **3/17/2009**

CLIENT: EEE CONSULTING
Project: OLEUM PLANT AST CLOSURE 09-728

All analyses were performed using documented laboratory SOPs that incorporate appropriate quality control procedures as described in the applicable methods. REI Consultants, Inc. (REIC) technical managers have verified compliance of reported results with the REIC's Quality Program and SOPs, except as noted in this case narrative. Any deviation from compliance is explained below and/or identified within the body of this report by a qualifier footnote which is defined at the bottom of each page.

All samples were analyzed using the methods stated in the analytical report without modification, unless otherwise noted.

All sample results are reported on an "as-received" wet weight basis unless otherwise noted.

Results reported for sums of individual parameters, such as Total Trihalomethanes (TTHM) and Total Haloacetic Acids (HAA5), may vary slightly from the sum of the individual parameter results. This apparent anomaly is caused by rounding individual results and summations at reporting, as required by EPA.

Following standard laboratory protocol, sample preservation, such as pH, is verified at time of extraction or analysis based on client requested parameters. Improper preservation is noted on the analytical bench sheet, extraction log, or preservation log and client is notified by close of following business day. All results are reported using preservation compliant samples unless otherwise noted in the analytical report.

The test results in this report meet all NELAP requirements for parameters for which accreditations are required or available. Any exceptions are noted in this report. This report may not be reproduced, except in full, without the written approval of REIC.

In compliance with federal guidelines and standard operating procedures, all reports, including raw data and supporting quality control, will be disposed of after five years unless otherwise arranged by the client via written notification or contract requirement.

If you have any questions please contact the project manager whose name is listed above.

REI Consultants, Inc. Analytical Results

Date: *17-Mar-09*

CLIENT:	EEE CONSULTING	**WorkOrder:**	0903471 **Lab ID** 0903471-01A
Client Sample ID:	SS1 @4FT	**DateReceived**	3/6/2009
Project:	OLEUM PLANT AST CLOSURE 09-728	**Collection Date:**	3/5/2009 10:05:00 AM
Site ID:	RAAP, RADFORD VA	**Matrix:**	SOIL

Analyses	Result	Units	Qual	PQL	MCL	Prep Date	Date Analyzed
PERCENT MOISTURE			**SM2540 B**			Analyst: **MS**	
Percent Moisture	20	wt%		0.5	NA		03/13/09 12:00 AM
SEMI-VOLATILE RANGE ORGANICS			**SW8015B**			Analyst: **TM**	
TPH (Diesel Range)	ND	mg/Kg		3.88	NA	03/10/09 9:00 AM	03/12/09 12:09 PM
Surr: o-Terphenyl	93.7	%REC		62.1-151	NA	03/10/09 9:00 AM	03/12/09 12:09 PM

Key:
- MCL Maximum Contaminant Level
- MDL Minimum Detection Limit
- NA Not Applicable
- ND Not Detected at the PQL or MDL
- PQL Practical Quantitation Limit
- TIC Tentatively Identified Compound, Estimated Concentrati

Qualifiers:
- B Analyte detected in the associated Method Blank
- E Estimated Value above quantitation range
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate Recovery outside accepted recovery limit
- * Value exceeds MCL or Regulatory Limits

REI Consultants, Inc. Analytical Results

Date: *17-Mar-09*

CLIENT:	EEE CONSULTING	**WorkOrder:**	0903471 **Lab ID** 0903471-02A
Client Sample ID:	S$2 @ 4FT	**DateReceived**	3/6/2009
Project:	OLEUM PLANT AST CLOSURE 09-728	**Collection Date:**	3/5/2009 10:00:00 AM
Site ID:	RAAP, RADFORD VA	**Matrix:**	SOIL

Analyses	Result	Units	Qual	PQL	MCL	Prep Date	Date Analyzed
PERCENT MOISTURE			**SM2540 B**			Analyst: **MS**	
Percent Moisture	24	wt%		0.5	NA		03/13/09 12:00 AM
SEMI-VOLATILE RANGE ORGANICS			**SW8015B**			Analyst: **TM**	
TPH (Diesel Range)	ND	mg/Kg		3.92	NA	03/10/09 9:00 AM	03/12/09 12:46 PM
Surr: o-Terphenyl	97.7	%REC		62.1-151	NA	03/10/09 9:00 AM	03/12/09 12:46 PM

Key:	MCL	Maximum Contaminant Level	**Qualifiers:**	B	Analyte detected in the associated Method Blank
	MDL	Minimum Detection Limit		E	Estimated Value above quantitation range
	NA	Not Applicable		H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the PQL or MDL		S	Spike/Surrogate Recovery outside accepted recovery limit
	PQL	Practical Quantitation Limit		*	Value exceeds MCL or Regulatory Limits
	TIC	Tentatively Identified Compound, Estimated Concentrati			

REI Consultants, Inc. Analytical Results

Date: *17-Mar-09*

CLIENT:	EEE CONSULTING	**WorkOrder:**	0903471 **Lab ID** 0903471-03A
Client Sample ID:	SS3 @ 4.5FT	**DateReceived**	3/6/2009
Project:	OLEUM PLANT AST CLOSURE 09-728	**Collection Date:**	3/5/2009 10:30:00 AM
Site ID:	RAAP, RADFORD VA	**Matrix:**	SOIL

Analyses	Result	Units	Qual	PQL	MCL	Prep Date	Date Analyzed
PERCENT MOISTURE			**SM2540 B**			Analyst: **MS**	
Percent Moisture	16	wt%		0.5	NA		03/13/09 12:00 AM
SEMI-VOLATILE RANGE ORGANICS			**SW8015B**			Analyst: **TM**	
TPH (Diesel Range)	ND	mg/Kg		3.98	NA	03/10/09 9:00 AM	03/12/09 1:23 PM
Surr: o-Terphenyl	98.1	%REC		62.1-151	NA	03/10/09 9:00 AM	03/12/09 1:23 PM

Key:	MCL	Maximum Contaminant Level	Qualifiers:	B	Analyte detected in the associated Method Blank
	MDL	Minimum Detection Limit		E	Estimated Value above quantitation range
	NA	Not Applicable		H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the PQL or MDL		S	Spike/Surrogate Recovery outside accepted recovery limit
	PQL	Practical Quantitation Limit		*	Value exceeds MCL or Regulatory Limits
	TIC	Tentatively Identified Compound, Estimated Concentrati			

REI Consultants, Inc. Analytical Results

Date: *17-Mar-09*

CLIENT:	EEE CONSULTING	**WorkOrder:**	0903471 **Lab ID** 0903471-04A
Client Sample ID:	SS4 @ 4FT	**DateReceived**	3/6/2009
Project:	OLEUM PLANT AST CLOSURE 09-728	**Collection Date:**	3/5/2009 10:51:00 AM
Site ID:	RAAP, RADFORD VA	**Matrix:**	SOIL

Analyses	Result	Units	Qual	PQL	MCL	Prep Date	Date Analyzed
PERCENT MOISTURE			**SM2540 B**			Analyst: **MS**	
Percent Moisture	14	wt%		0.5	NA		03/13/09 12:00 AM
SEMI-VOLATILE RANGE ORGANICS			**SW8015B**			Analyst: **TM**	
TPH (Diesel Range)	300	mg/Kg		3.91	NA	03/10/09 9:00 AM	03/12/09 2:00 PM
Surr: o-Terphenyl	106	%REC		62.1-151	NA	03/10/09 9:00 AM	03/12/09 2:00 PM

Key: MCL Maximum Contaminant Level
MDL Minimum Detection Limit
NA Not Applicable
ND Not Detected at the PQL or MDL
PQL Practical Quantitation Limit
TIC Tentatively Identified Compound, Estimated Concentrati

Qualifiers: B Analyte detected in the associated Method Blank
E Estimated Value above quantitation range
H Holding times for preparation or analysis exceeded
S Spike/Surrogate Recovery outside accepted recovery limit
* Value exceeds MCL or Regulatory Limits

REI Consultants, Inc. Analytical Results

Date: *17-Mar-09*

CLIENT:	EEE CONSULTING	**WorkOrder:**	0903471 **Lab ID** 0903471-05A
Client Sample ID:	SS5 @ 5FT	**DateReceived**	3/6/2009
Project:	OLEUM PLANT AST CLOSURE 09-728	**Collection Date:**	3/5/2009 11:15:00 AM
Site ID:	RAAP, RADFORD VA	**Matrix:**	SOIL

Analyses	Result	Units	Qual	PQL	MCL	Prep Date	Date Analyzed
PERCENT MOISTURE			**SM2540 B**			Analyst: **MS**	
Percent Moisture	18	wt%		0.5	NA		03/13/09 12:00 AM
SEMI-VOLATILE RANGE ORGANICS			**SW8015B**			Analyst: **TM**	
TPH (Diesel Range)	ND	mg/Kg		3.98	NA	03/10/09 9:00 AM	03/12/09 2:37 PM
Surr: o-Terphenyl	95.3	%REC		62.1-151	NA	03/10/09 9:00 AM	03/12/09 2:37 PM

Key:	MCL	Maximum Contaminant Level	Qualifiers:	B	Analyte detected in the associated Method Blank
	MDL	Minimum Detection Limit		E	Estimated Value above quantitation range
	NA	Not Applicable		H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the PQL or MDL		S	Spike/Surrogate Recovery outside accepted recovery limit
	PQL	Practical Quantitation Limit		*	Value exceeds MCL or Regulatory Limits
	TIC	Tentatively Identified Compound, Estimated Concentrati			

REI Consultants, Inc. Analytical Results

Date: *17-Mar-09*

CLIENT:	EEE CONSULTING	**WorkOrder:**	0903471 **Lab ID** 0903471-06A
Client Sample ID:	SS6 @ 4FT	**DateReceived**	3/6/2009
Project:	OLEUM PLANT AST CLOSURE 09-728	**Collection Date:**	3/5/2009 11:30:00 AM
Site ID:	RAAP, RADFORD VA	**Matrix:**	SOIL

Analyses	Result	Units	Qual	PQL	MCL	Prep Date	Date Analyzed
PERCENT MOISTURE			**SM2540 B**			Analyst: **MS**	
Percent Moisture	16	wt%		0.5	NA		03/13/09 12:00 AM
SEMI-VOLATILE RANGE ORGANICS			**SW8015B**			Analyst: **TM**	
TPH (Diesel Range)	ND	mg/Kg		3.88	NA	03/10/09 9:00 AM	03/12/09 3:13 PM
Surr: o-Terphenyl	96.5	%REC		62.1-151	NA	03/10/09 9:00 AM	03/12/09 3:13 PM

Key:
- MCL Maximum Contaminant Level
- MDL Minimum Detection Limit
- NA Not Applicable
- ND Not Detected at the PQL or MDL
- PQL Practical Quantitation Limit
- TIC Tentatively Identified Compound, Estimated Concentrati

Qualifiers:
- B Analyte detected in the associated Method Blank
- E Estimated Value above quantitation range
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate Recovery outside accepted recovery limit
- * Value exceeds MCL or Regulatory Limits

REI Consultants, Inc. Analytical Results

Date: *17-Mar-09*

CLIENT:	EEE CONSULTING	**WorkOrder:**	0903471 **Lab ID** 0903471-07A
Client Sample ID:	SS7 @ 4.5FT	**DateReceived**	3/6/2009
Project:	OLEUM PLANT AST CLOSURE 09-728	**Collection Date:**	3/5/2009 11:50:00 AM
Site ID:	RAAP, RADFORD VA	**Matrix:**	SOIL

Analyses	Result	Units	Qual	PQL	MCL	Prep Date	Date Analyzed
PERCENT MOISTURE			**SM2540 B**			Analyst: **MS**	
Percent Moisture	19	wt%		0.5	NA		03/13/09 12:00 AM
SEMI-VOLATILE RANGE ORGANICS			**SW8015B**			Analyst: **TM**	
TPH (Diesel Range)	ND	mg/Kg		4.00	NA	03/13/09 2:12 PM	03/13/09 7:15 PM
Surr: o-Terphenyl	95.1	%REC		62.1-151	NA	03/13/09 2:12 PM	03/13/09 7:15 PM

Key:	MCL	Maximum Contaminant Level	Qualifiers:	B	Analyte detected in the associated Method Blank
	MDL	Minimum Detection Limit		E	Estimated Value above quantitation range
	NA	Not Applicable		H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the PQL or MDL		S	Spike/Surrogate Recovery outside accepted recovery limit
	PQL	Practical Quantitation Limit		*	Value exceeds MCL or Regulatory Limits
	TIC	Tentatively Identified Compound, Estimated Concentrati			

REI Consultants, Inc. Analytical Results

Date: *17-Mar-09*

CLIENT:	EEE CONSULTING	**WorkOrder:**	0903471 **Lab ID** 0903471-08A
Client Sample ID:	SS8 @ 4FT	**DateReceived**	3/6/2009
Project:	OLEUM PLANT AST CLOSURE 09-728	**Collection Date:**	3/5/2009 11:55:00 AM
Site ID:	RAAP, RADFORD VA	**Matrix:**	SOIL

Analyses	Result	Units	Qual	PQL	MCL	Prep Date	Date Analyzed
PERCENT MOISTURE			**SM2540 B**			Analyst: **MS**	
Percent Moisture	19	wt%		0.5	NA		03/13/09 12:00 AM
SEMI-VOLATILE RANGE ORGANICS			**SW8015B**			Analyst: **TM**	
TPH (Diesel Range)	ND	mg/Kg		3.97	NA	03/13/09 2:12 PM	03/13/09 7:15 PM
Surr: o-Terphenyl	90.2	%REC		62.1-151	NA	03/13/09 2:12 PM	03/13/09 7:15 PM

Key:	MCL	Maximum Contaminant Level	Qualifiers:	B	Analyte detected in the associated Method Blank
	MDL	Minimum Detection Limit		E	Estimated Value above quantitation range
	NA	Not Applicable		H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the PQL or MDL		S	Spike/Surrogate Recovery outside accepted recovery limit
	PQL	Practical Quantitation Limit		*	Value exceeds MCL or Regulatory Limits
	TIC	Tentatively Identified Compound, Estimated Concentrati			

REIC

REI Consultants, Inc.
225 Industrial Park Rd.
P.O. Box 286, Beaver, WV 25813
Phone: 304-255-2500 or 800-999-0105
FAX: 304-255-2572
e-mail: rlabs@reiclabs.com

CHAIN OF CUSTODY RECORD NO. 253551

CLIENT: EEE Consulting
ADDRESS: 201 Church St SE
CITY/STATE/ZIP: Blacksburg, VA 24060
BILL TO: Same
CITY/STATE/ZIP:
PURCHASE ORDER #
QUOTE #

CONTACT PERSON: Chris Lalli
TELEPHONE #: 540-953-0170
FAX #: " " 0171
E-MAIL ADDRESS: clalli@eee-consulting.com
SITE ID & STATE: RAAP Radford, VA
PROJECT ID: Oleum Plant AST Closure 09-778
SAMPLER: Ryan Day / Chris Lalli

SAMPLE LOG AND ANALYSIS REQUEST

TURNAROUND TIME REQUIREMENTS
REGULAR: X
*RUSH: __ 5-Day __ 3-Day __ 2-Day __ 1-Day
*Rush work needs prior laboratory approval and will include surcharges

PRESERVATIVES
0 No Preservative
1 Hydrochloric Acid
2 Nitric Acid
3 Sulfuric Acid
4 Sodium Thiosulfate
5 Sodium Hydroxide
6 Zinc Acetate
7 EDTA

PRESERVATIVE CODES — NOTE PRESERVATIVES → 0

ANALYSIS REQUESTED & METHOD: TPH-DRO

SAMPLE ID	NO. & TYPE OF CONTAINERS	SAMPLING DATE / TIME	MATRIX	SAMPLE COMP / GRAB	TPH-DRO	COMMENTS
SS1 @ 4-ft	1 4oz. soil	3-5 / 1005	Soil	GRAB	X	
SS2 @ 4-ft	↓	↓ 1000	↓		↓	
SS3 @ 4.5-ft		1030				
SS4 @ 4-ft		1051				
SS5 @ 5-ft		1115				
SS6 @ 4-ft		1120				
SS7 @ 4.5-ft		1150				
SS8 @ 4-ft	↓	↓ 1155	↓		↓	

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
Ryan Day	3-6/0900	[signature]	3-6-09 1110				
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Temperature Upon Arrival: 2.5 °C	FAX Results	Email Results	

225 Industrial Park Drive
Beaver, WV 25813
TEL: 304.255.2500
FAX: 304.255.2572
Website: www.reiclabs.com

Improving the environment, one client at a time...

April 08, 2009

Chris Lalli
EEE CONSULTING
201 CHURCH ST SE SUITE C
BLACKSBURG VA 24060

TEL: (540) 953-0170
FAX (540) 953-0171

RE: 09-729 AST CLOSURE

Order No.: 0904296

Dear Chris Lalli:

REI Consultants, Inc. received 1 sample(s) on 4/3/2009 for the analyses presented in the following report.

Please note two changes you may see on your report.

- Results for "Dissolved" parameters will be shown under a separate sample ID, rather than as a separate analysis under the same sample ID. The sample ID for "Dissolved" parameters will include "Field Filtered" or "Lab Filtered", as appropriate.
- Metals results will no longer be identified as "Total" or "Total Recoverable". The methods have not been changed, only their appearance on the report.

If you have any questions regarding these results, please do not hesitate to call.

Sincerely,

Scott Gross
Project Manager

ACCREDITED IN ACCORDANCE WITH nelac

225 Industrial Park Drive
Beaver, WV 25813
TEL: 304.255.2500
FAX: 304.255.2572
Website: www.reiclabs.com

Improving the environment, one client at a time...

Report Narrative

Project Manager:: Scott Gross

WO#: 0904296
Date: 4/8/2009

CLIENT: EEE CONSULTING
Project: 09-729 AST CLOSURE

All analyses were performed using documented laboratory SOPs that incorporate appropriate quality control procedures as described in the applicable methods. REI Consultants, Inc. (REIC) technical managers have verified compliance of reported results with the REIC's Quality Program and SOPs, except as noted in this case narrative. Any deviation from compliance is explained below and/or identified within the body of this report by a qualifier footnote which is defined at the bottom of each page.

All samples were analyzed using the methods stated in the analytical report without modification, unless otherwise noted.

All sample results are reported on an "as-received" wet weight basis unless otherwise noted.

Results reported for sums of individual parameters, such as Total Trihalomethanes (TTHM) and Total Haloacetic Acids (HAA5), may vary slightly from the sum of the individual parameter results. This apparent anomaly is caused by rounding individual results and summations at reporting, as required by EPA.

Following standard laboratory protocol, sample preservation, such as pH, is verified at time of extraction or analysis based on client requested parameters. Improper preservation is noted on the analytical bench sheet, extraction log, or preservation log and client is notified by close of following business day. All results are reported using preservation compliant samples unless otherwise noted in the analytical report.

The test results in this report meet all NELAP requirements for parameters for which accreditations are required or available. Any exceptions are noted in this report. This report may not be reproduced, except in full, without the written approval of REIC.

In compliance with federal guidelines and standard operating procedures, all reports, including raw data and supporting quality control, will be disposed of after five years unless otherwise arranged by the client via written notification or contract requirement.

If you have any questions please contact the project manager whose name is listed above.

REI Consultants, Inc. Analytical Results

Date: *08-Apr-09*

CLIENT:	EEE CONSULTING	**WorkOrder:**	0904296 **Lab ID** 0904296-01A
Client Sample ID:	SS-4 @ 6FT BGS	**DateReceived**	4/3/2009
Project:	09-729 AST CLOSURE	**Collection Date:**	3/31/2009 2:00:00 PM
Site ID:	ATK OLEUM	**Matrix:**	SOIL

Analyses	Result	Units	Qual	PQL	MCL	Prep Date	Date Analyzed
PERCENT MOISTURE			**SM2540 B**			Analyst: **MS**	
Percent Moisture	18	wt%		0.5	NA		04/07/09 12:00 AM
SEMI-VOLATILE RANGE ORGANICS			**SW8015B**			Analyst: **TM**	
TPH (Diesel Range)	ND	mg/Kg		4.00	NA	04/06/09 2:43 PM	04/07/09 3:41 AM
Surr: o-Terphenyl	88.0	%REC		62.1-151	NA	04/06/09 2:43 PM	04/07/09 3:41 AM

Key:
- MCL Maximum Contaminant Level
- MDL Minimum Detection Limit
- NA Not Applicable
- ND Not Detected at the PQL or MDL
- PQL Practical Quantitation Limit
- TIC Tentatively Identified Compound, Estimated Concentrati

Qualifiers:
- B Analyte detected in the associated Method Blank
- E Estimated Value above quantitation range
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate Recovery outside accepted recovery limit
- * Value exceeds MCL or Regulatory Limits

REIC

REI Consultants, Inc.
225 Industrial Park Rd.
P.O. Box 286, Beaver, WV 25813
Phone: 304-255-2500 or 800-999-0105
FAX: 304-255-2572
e-mail: rlabs@reiclabs.com

CHAIN OF CUSTODY RECORD NO. 2?751?

CLIENT: EEE Consulting
ADDRESS: 2nd Church St SE
CITY/STATE/ZIP: Blacksburg, VA 24060
BILL TO: Same
CITY/STATE/ZIP:
PURCHASE ORDER #
QUOTE #

CONTACT PERSON: Chris Colli
TELEPHONE #: 540-953-0120
FAX #: " " 0171
E-MAIL ADDRESS: ccolli@eee-consulting.com
SITE ID & STATE: ATK OEVM
PROJECT ID: 07-729 AST Closure
SAMPLER: Ryan Day

SAMPLE LOG AND ANALYSIS REQUEST

TURNAROUND TIME REQUIREMENTS
REGULAR: X
*RUSH: ___ 5-Day ___ 3-Day ___ 2-Day ___ 1-Day
*Rush work needs prior Laboratory approval and will include surcharges

PRESERVATIVES
0 No Preservative
1 Hydrochloric Acid
2 Nitric Acid
3 Sulfuric Acid
4 Sodium Thiosulfate
5 Sodium Hydroxide
6 Zinc Acetate
7 EDTA

PRESERVATIVE CODES — NOTE PRESERVATIVES → 0

ANALYSIS REQUESTED & METHOD: TPH-DRO

SAMPLE ID	NO. & TYPE OF CONTAINERS	SAMPLING DATE / TIME	MATRIX	SAMPLE COMP / GRAB	TPH-DRO	COMMENTS
SS-4 @ 6ft. bgs	1 4oz. Soil jar	3-31/1400	Soil	GRAB	X	

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
Ryan Day	4-1/1000	[signature]	4-1-08 1150				

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Temperature Upon Arrival °C		
				2.0	FAX Results	Email Results

NON-HAZARDOUS WASTE MANIFEST

Please print or type (Form designed for use on elite (12 pitch) typewriter)

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. 032509

2. Page 1 of 1

3. Generator's Name and Mailing Address
Alliant Techsystems
P.O. Box 1, Route 114
Radford, VA 24143

4. Generator's Phone (540) 639 - [redacted]

5. Transporter 1 Company Name
Clean Harbors Environmental Svc

6. US EPA ID Number
MAD039322250

7. Transporter 2 Company Name

8. US EPA ID Number

9. Designated Facility Name and Site Address
GARCO
2503 N. Fayetteville Street
Asheboro, NC 27203

10. US EPA ID Number

A. State Transporter's ID

B. Transporter 1 Phone 336-342-6106

C. State Transporter's ID

D. Transporter 2 Phone

E. State Facility's ID

F. Facility's Phone 336-683-0911

11. WASTE DESCRIPTION

	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt./Vol.
a. Non-Hazardous, non DOT Regulated Material (Fuel Oil/water mixture from tank bottoms)	1	TT	01410	G
b.				
c.				
d.				

G. Additional Descriptions for Materials Listed Above

H. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
Truck # 489
NC 2252365

16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Printed/Typed Name [redacted] Signature [redacted] Date Month 03 Day 25 Year 09

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name Jeff Bullins Signature Jeff Bullins Date Month 03 Day 25 Year 09

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name Signature Date Month Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of the waste materials covered by this manifest, except as noted in item 19.

Printed/Typed Name Signature Date Month Day Year

GENERATOR

TRANSPORTER

FACILITY

Shipping Order

Shipping Order No. AS 22355

Date: 3-25-09 Page 1 Of 1

Ship From:	Ship To:	Ship Via:
Alliant Techsystems, Inc. Radford Army Ammunition Plant P.O. Box 1 Route 114 Radford, VA 24141	GARCO, INC. 2503 N. FAYETTEVILLE STREET ASHEBORO, NC 27203	Vendor's Vac-Truck

FOB Point: Freight Terms:

Item	Quantity to Ship	Unit of Measure	Part # or Material Code	Description	Quantity Shipped	Net Weight	Gross Weight
1		Gallons		#2 Fuel Oil/Water From Tank Cleaning at Bldg 4431	1410	GAllons	

Customer Order/Contract Number/PO Number	Bill to	Dept	Charge Code
AR3011		815	I815070510

SHIPPING USE ONLY

Carrier	Vendor	Hazardous Materials—Pack Layout Required		Packed By	Date
Trailer No.		Net Explosive Wt.			
Car No. & Initials		Shipping Hazard Class		Inspected By	Date
Seal No.		Ex Number			
B/L Number		Un Ident. Number		Number of Units	Cubic Feet
Shipment No		Competent Authority No.			
Number of Cartons				Total Weight	B/L Number
Shipment Value					

Originated by: [redacted] Date: 12/17/02 Phone No: 693-7529 Dept No.:

Shipment Authorization: ☐ Description Sheet ☐ C of C/C of A ☐ Emer. Ship DUP-6677 ☐ MCA LAP Samples

Program Manager: *Quality Engineer: Government: Property Control:

Traffic: Shipped by: [redacted] Received by: Charles J Bulston

DUP2565A Rev ND 12/16/02 *Not applicable to MCA LAP

GARCO, Inc.
NON-HAZARDOUS WASTE PROFILE

2503 N. Fayetteville Street
Asheboro, NC 27203
Phone: (336) 683-0911
Fax: (336) 683-0811

Waste Stream: #2 Fuel Oil/Water
Process Generating: Tank Cleanings

Generator Name: Alliant Techsystems
Facility Address: PO Box 1, Route 114
Radford, VA 24143

Technical Contact: [redacted]
Phone: 540-639-7668 or 8722
Invoice Information: Clean Harbors Inc. Attn: Jim Poch

Physical Characteristics

Physical State: ☒Liquid ☐Semi-Solid ☐Solid ☐Other
Layers: ☐None ☒Bi-Layer ☐Multi-Layer
Free Liquids: ☐Yes ☐No % Liquids 90 % Solids 10
Pumpable: ☒Yes ☐No
Viscosity: ☐Low ☒Medium ☐High
Color: dark
Flash Point: >140 deg F
pH: 7
Odor: Mild
BTU/Lb: approx 2000
Reactive with:

Is this waste considered explosive?	☐Yes	☒No
Is this waste considered infectious?	☐Yes	☒No
Does this waste contain dioxin, pesticides or PCBs?	☐Yes	☒No
Does this waste contain spent solvents?	☐Yes	☒No
Is this waste petroleum related?	☒Yes	☐No

Anticipated Volume/Frequency: 2000 gallons

Physical/Chemical Constituents	
#2 Fuel Oil	80 %
Water	10 %
Sediment	10 %
	%
	%
	%
	%
Total	100 %

Analytical Information: ☒See Attached ☐None Currently Available
Special Handling Information:
Applicable RCRA Waste Codes: N/A
DOT Shipping Name: Non DOT Regulated Fuel Oil/Water Mixture
Hazard Class: _____ UN/NA _____ Packing Group: _____

Generator's Certification:
I hereby certify that the above and attached description is complete and accurate to the best of my knowledge and ability to determine that no deliberate or willful omissions of composition properties exist and that all known or suspected hazards have been disclosed. I certify that the materials tested are representative of all materials described by this profile.

[redacted] [redacted] 3/18/2009
Generator's Signature Printed Name Date

GARCO Acceptance

_____ SUB-D SOL WWT REC
GARCO Management

REI Consultants, Inc. **Analytical Results** **Date:** *17-Mar-09* 210362

CLIENT:	ALLIANT AMMUNITION & POWDER CO.	**WorkOrder:**	0903864 **Lab ID** 0903864-01A
Client Sample ID:	WEST	**DateReceived**	3/11/2009
Project:	I815070510	**Collection Date:**	3/9/2009 2:00:00 PM
Site ID:	OLEUM PLANT FUEL OIL TANK	**Matrix:**	LIQUID

Analyses	Result	Units	Qual	PQL	MCL	Prep Date	Date Analyzed
TCLP METALS BY ICP			**SW1311/6010C**			Analyst: **LW**	
Arsenic	ND	mg/L		2.50	5.00	03/12/09 8:38 PM	03/16/09 10:01 AM
Barium	ND	mg/L		0.50	100	03/12/09 8:38 PM	03/16/09 10:01 AM
Cadmium	ND	mg/L		0.10	1.00	03/12/09 8:38 PM	03/16/09 10:01 AM
Chromium	ND	mg/L		0.50	5.00	03/12/09 8:38 PM	03/16/09 10:01 AM
Lead	ND	mg/L		2.50	5.00	03/12/09 8:38 PM	03/16/09 10:01 AM
Selenium	ND	mg/L		2.50	1.00	03/12/09 8:38 PM	03/16/09 10:01 AM
Silver	ND	mg/L		0.25	5.00	03/12/09 8:38 PM	03/16/09 10:01 AM
TCLP MERCURY			**SW1311/7470**			Analyst: **CGW**	
Mercury	ND	mg/L		0.002	0.200	03/12/09 8:40 PM	03/12/09 11:01 AM
TCLP PERCENT SOLIDS			**SW1311**			Analyst: **KD**	
Percent Solids	<0.5	wt%		NA	NA	03/12/09 12:00 AM	03/12/09 6:15 PM
FLASHPOINT			**SW1010**			Analyst: **CDS**	
Ignitability	No Flash to 90	°C		NA	NA		03/12/09 12:00 AM
TOTAL HALOGENS			**SW5050/9056**			Analyst: **CW**	
Total Halogens, as chloride	ND	mg/Kg		100	NA		03/13/09 5:30 AM

Key: MCL Maximum Contaminant Level
MDL Minimum Detection Limit
NA Not Applicable
ND Not Detected at the PQL or MDL
PQL Practical Quantitation Limit
TIC Tentatively Identified Compound, Estimated Concentration

Qualifiers: B Analyte detected in the associated Method Blank
E Estimated Value above quantitation range
H Holding times for preparation or analysis exceeded
S Spike/Surrogate Recovery outside accepted recovery limits
* Value exceeds MCL or Regulatory Limits

Attachment SPCC-5: Environmental Event Report for May 4, 2010 Spill

Multi-Media Inspection Report

Radford Army Ammunition Plant
May 16 to 20, 2011

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DUP 9019, Rev. Lev. 2 (9/23/09)

Environmental Event Report

EER No.
11-006

☐ Corporate Reporting Required?
☐ Scorecard Event?

Date Submitted to Corporate:	Type of Scorecard Event:

General Information

☐ Repeat Event?

Event Date and Time:	Event Type:	Date(s) of Previous Event(s)
5/4/2010 11:30:00 AM	Spill/Release	

Environmental Representative(s):		Location: (Area of Facility where event occured)	
[redacted]	[redacted]	Maintenance	River Garage [redacted]

Other Contact(s): (with knowledge of event)	Area Representative
[redacted]	[redacted]

Event Details

Summary: (Description of the event including potential impacts to the environment)

Del-Gen 15-ft brush cutter leaked about 1-2 gallons of oil to ground near B9388. [redacted]s coordinated the cleanup by applying absorbent and collecting the oil-contaminated spill cleanup debris. Per SIR: At 11:00 am the hydraulic oil line on the Alamo Hydro-15 rear rotary mower (batwing) ruptured while mowing grass in the Burning Ground area. The operator immediately disengaged the cutter shaft to reduce pressure on the hydraulic line. The operator drove the tractor to the River Garage building 9388, and reported the incident to his supervisor. Absorb-All was used on the gravel area. Cleanup and disposal was performed by the Environmental Department.

Immediate Cause: (Without further investigation, what is the cause of this event?)

Ruptured hydraulic oil line (equipment failure).

Root Cause: (From the root cause analysis, what is the true cause of this event?)

To be determined.

External Communication in addition to ACO: (Describe contact with regulatory agencies, citizens, etc.

Corrective and Preventative Actions for EER Number 11-006

Task	Responsible Person	Target Date	Completion Date	Verification of Effectiveness
Clean up oil spill	[redacted]	5/4/2010	5/4/2010	Visual inspection of site by [redacted]
Replace hydraulic oil line. Per email from [redacted] on 5/19: The hydraulic oil line was replaced on the equipment by 5/5/10.	Del-Jen	5/21/2010	5/5/2010	Visually verified by [redacted] 5/19.

DEL-JEN – 5 minute safety meeting to discuss incident reporting. Per email from [redacted] on 5/19: We also have conducted incident reporting procedures with all employees by 5/14/10.	Del-Jen	6/1/2010	5/14/2010	Visually verified by [redacted] on 5/19.

Report Issue Date: 5/17/2010 Open/Closed: Closed Report Close Date: 5/20/2010

Note: Scan all calculations, backup data, telephone call records and email records; save to EER folder under E:\EER's. For verification of effectiveness, an Environmental Engineer will need to verify the task is complete and effective.

Attachment CAA-1: Emissions Inventories for 2005 - 2009

Multi-Media Inspection Report

Radford Army Ammunition Plant
May 16 to 20, 2011

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Radford Army Ammunitions Plant
Summary of 2009 Air Emissions

Pollutant	2009 Emissions (tons/yr)
Volatile Organic Compounds (VOCs)	
Bioplant emissions	0.2
Combustion Sources	3.4
Contaminated Scrap Burning Area	0.0
Ether from Single Base Propellant Manufacturing	525.5
Ethanol from Single Base Propellant Manufacturing	880.2
Plantwide NG Emissions (excluding NRE)	25.1
Rolled Powder Production	0.01
NRE Production	42.6
FEF Pilot Plant	0.5
Waste Propellant Open Burning	3.7
Total VOCs	**1481.3**
PM10	
Combustion Sources	102.4
Contaminated Scrap Burning Area	0.0
Waste Propellant Open Burning	2.0
NRE Production	4.4
Total PM10	**108.8**
Nitrogen Oxides (NOx)	
Combustion Sources	1179.4
AOP	26.0
NC	2.9
Contaminated Scrap Burning Area	0.0
NAC/SAC	22.4
TNT/DNT Production	0.0
Waste Propellant Open Burning	0.7
Total NOx	**1231.4**
Sulfur Dioxide (SO_2)	
Combustion Sources	2503.9
NC	0.1
Contaminated Scrap Burning Area	0.0
Waste Propellant Open Burning	0.1
Total SO_2	**2504.1**

Summary of 2009 Air Emissions Continued	
Carbon Monoxide (CO)	
Combustion Sources	30.5
Contaminated Scrap Burning Area	0.0
Waste Propellant Open Burning	10.5
Total CO	**41.1**
Lead (Pb)	
Combustion Sources	0.0225
NRE (Yellow 33538 Paint)	0.0000
Total Pb	**0.023**
Ammonia (NH_3)	
Combustion Sources	0.3
Total NH_3	**0.3**
PM2.5	
Combustion Sources	26.6
Totla PM2.5	**26.6**
Non-VOC/Non-PM10 Hazardous Air Pollutants (HAPs)	
Methylene Chloride*	1.45
Hydrogen Chloride (HCl)*	64.2
Hydrogen Fluoride (HF)*	8.0
Total non-VOC/non-PM10 HAPs	**73.7**
Total Air Emissions for 2009 (tons/yr)	**5467.2**

*Targeted Priority HAPs

Radford Army Ammunitions Plant
Summary of 2008 Air Emissions

Pollutant	2008 Emissions (tons/yr)
Volatile Organic Compounds (VOCs)	
Bioplant emissions	0.2
Combustion Sources	3.6
Contaminated Scrap Burning Area	0.0
Ether from Single Base Propellant Manufacturing	993.1
Ethanol from Single Base Propellant Manufacturing	868.3
Plantwide NG Emissions (excluding NRE)	30.3
Rolled Powder Production	0.02
NRE Production	42.8
Waste Propellant Open Burning	4.0
Total VOCs	**1942.4**
PM10	
Combustion Sources	97.2
Contaminated Scrap Burning Area	0.0
Waste Propellant Open Burning	2.1
NRE Production	4.5
Total PM10	**103.7**
Nitrogen Oxides (NOx)	
Combustion Sources	1237.3
AOP	3.3
NC	2.6
Contaminated Scrap Burning Area	0.0
NAC/SAC	22.8
TNT/DNT Production	0.0
Waste Propellant Open Burning	0.8
Total NOx	**1266.8**
Sulfur Dioxide (SO_2)	
Combustion Sources	2797.7
NC	0.1
Contaminated Scrap Burning Area	0.0
Waste Propellant Open Burning	0.1
Total SO_2	**2797.9**
Carbon Monoxide (CO)	
Combustion Sources	31.1
Contaminated Scrap Burning Area	0.0
Waste Propellant Open Burning	11.3
Total CO	**42.4**
Summary of 2008 Air Emissions Continued:	
Lead (Pb)	
Combustion Sources	0.0
NRE (Yellow 33538 Paint)	0.0
Total Pb	**0.0**
Ammonia (NH_3)	
Combustion Sources	0.3
Total NH_3	**0.3**
PM2.5	
Combustion Sources	25.3
Totla PM2.5	**25.3**
Non-VOC/Non-PM10 Hazardous Air Pollutants (HAPs)	
Methylene Chloride*	1.45
Hydrogen Chloride (HCl)*	67.4
Hydrogen Fluoride (HF)*	8.4
Total non-VOC/non-PM10 HAPs	**77.2**
Total Air Emissions for 2008 (tons/yr)	**6256.0**

*Targeted Priority HAPs

Radford Army Ammunitions Plant
Summary of 2008 Air Emissions

Pollutant	2008 Emissions (tons/yr)
Volatile Organic Compounds (VOCs)	
Bioplant emissions	0.2
Combustion Sources	3.6
Contaminated Scrap Burning Area	0.0
Ether from Single Base Propellant Manufacturing	993.1
Ethanol from Single Base Propellant Manufacturing	868.3
Plantwide NG Emissions (excluding NRE)	30.3
Rolled Powder Production	0.02
NRE Production	42.8
Waste Propellant Open Burning	4.0
Total VOCs	**1942.4**
PM10	
Combustion Sources	97.2
Contaminated Scrap Burning Area	0.0
Waste Propellant Open Burning	2.1
NRE Production	4.5
Total PM10	**103.7**
Nitrogen Oxides (NOX)	
Combustion Sources	1237.3
AOP	3.3
NC	2.6
Contaminated Scrap Burning Area	0.0
NAC/SAC	22.8
TNT/DNT Production	0.0
Waste Propellant Open Burning	0.8
Total NOx	**1266.8**
Sulfur Dioxide (SO_2)	
Combustion Sources	2797.7
NC	0.1
Contaminated Scrap Burning Area	0.0
Waste Propellant Open Burning	0.1
Total SO_2	**2797.9**
Carbon Monoxide (CO)	
Combustion Sources	31.1
Contaminated Scrap Burning Area	0.0
Waste Propellant Open Burning	11.3
Total CO	**42.4**
Summary of 2008 Air Emissions Continued	
Lead (Pb)	
Combustion Sources	0.0
NRE (Yellow 33538 Paint)	0.0
Total Pb	**0.0**
Ammonia (NH_3)	
Combustion Sources	0.3
Total NH_3	**0.3**
PM2.5	
Combustion Sources	25.3
Totla PM2.5	**25.3**
Non-VOC/Non-PM10 Hazardous Air Pollutants (HAPs)	
Methylene Chloride*	1.45
Hydrogen Chloride (HCl)*	67.4
Hydrogen Fluoride (HF)*	8.4
Total non-VOC/non-PM10 HAPs	**77.2**
Total Air Emissions for 2008 (tons/yr)	**6256.0**

*Targeted Priority HAPs

Radford Army Ammunitions Plant
Summary of 2007 Air Emissions

Pollutant	2007 Emissions (tons/yr)
Volatile Organic Compounds (VOCs)	
Bioplant emissions	0.6
Combustion Sources	3.7
Contaminated Scrap Burning Area	0.0
Ether from Single Base Propellant Manufacturing	1304.3
Ethanol from Single Base Propellant Manufacturing	920.7
Plantwide NG Emissions (excluding NRE)	29.2
Rolled Powder Production	0.02
NRE Production	43.6
Waste Propellant Open Burning	4.4
Total VOCs	**2306.4**
PM10	
Combustion Sources	99.0
Contaminated Scrap Burning Area	0.0
Waste Propellant Open Burning	2.4
NRE Production	4.5
Total PM10	**105.9**
Nitrogen Oxides (NOx)	
Combustion Sources	1254.5
AOP	3.2
NC	2.5
Contaminated Scrap Burning Area	0.0
NAC/SAC	19.6
TNT/DNT Production	0.2
Waste Propellant Open Burning	0.9
Total NOx	**1280.8**
Sulfur Dioxide (SO_2)	
Combustion Sources	2755.4
NC	0.1
Contaminated Scrap Burning Area	0.0
Waste Propellant Open Burning	0.1
Total SO_2	**2755.6**
Carbon Monoxide (CO)	
Combustion Sources	33.9
Contaminated Scrap Burning Area	0.0
Waste Propellant Open Burning	12.5
Total CO	**46.5**
Summary of 2007 Air Emissions Continued	
Lead (Pb)	
Combustion Sources	0.0
NRE (Yellow 33538 Paint)	0.0
Total Pb	**0.0**
Ammonia (NH_3)	
Combustion Sources	0.3
Total NH_3	**0.3**
PM2.5	
Combustion Sources	25.7
Totla PM2.5	**25.7**
Non-VOC/Non-PM10 Hazardous Air Pollutants (HAPs)	
Methylene Chloride*	1.55
Hydrogen Chloride (HCl)*	67.9
Hydrogen Fluoride (HF)*	8.5
Total non-VOC/non-PM10 HAPs	**78.0**
Total Air Emissions for 2007 (tons/yr)	**6599.2**

*Targeted Priority HAPs

Radford Army Ammunitions Plant
Summary of 2006 Air Emissions

Pollutant	2006 Emissions (tons/yr)
Volatile Organic Compounds (VOCs)	
Bioplant emissions	0.3
Combustion Sources	3.6
Contaminated Scrap Burning Area	7.7
Ether from Single Base Propellant Manufacturing	1831.2
Ethanol from Single Base Propellant Manufacturing	1982.7
Plantwide NG Emissions (excluding NRE)	31.4
Rolled Powder Production	0.02
NRE Production	41.6
Waste Propellant Open Burning	4.5
Total VOCs	**3903.1**
PM10	
Combustion Sources	94.2
Contaminated Scrap Burning Area	4.1
Waste Propellant Open Burning	2.4
NRE Production	4.3
Total PM10	**105.1**
Nitrogen Oxides (NOx)	
Combustion Sources	1248.0
AOP	3.2
NC	3.2
Contaminated Scrap Burning Area	1.5
NAC/SAC	18.0
Waste Propellant Open Burning	0.9
Total NOx	**1274.8**
Sulfur Dioxide (SO_2)	
Combustion Sources	3064.5
NC	0.1
Contaminated Scrap Burning Area	0.3
Waste Propellant Open Burning	0.2
Total SO_2	**3065.0**
Carbon Monoxide (CO)	
Combustion Sources	32.3
Contaminated Scrap Burning Area	21.9
Waste Propellant Open Burning	12.8

Total CO	**67.0**

Summary of 2006 Air Emissions Continued

Lead (Pb)	
Combustion Sources	0.0
NRE (Yellow 33538 Paint)	0.0
Total Pb	**0.0**
Ammonia (NH_3)	
Combustion Sources	0.3
Total NH_3	**0.3**
PM2.5	
Combustion Sources	24.5
Totla PM2.5	**24.5**
Non-VOC/Non-PM10 Hazardous Air Pollutants (HAPs)	
Methylene Chloride*	0.30
Hydrogen Chloride (HCl)*	67.7
Hydrogen Fluoride (HF)*	8.5
Total non-VOC/non-PM10 HAPs	**76.4**
Total Air Emissions for 2006 (tons/yr)	**8516.2**

*Targeted Priority HAPs

Radford Army Ammunitions Plant
Summary of 2005 Air Emissions

Pollutant	2005 Emissions (tons/yr)
Volatile Organic Compounds (VOCs)	
Bioplant emissions	0.3
Combustion Sources	3.5
Contaminated Scrap Burning Area	0.0
Ether from Single Base Propellant Manufacturing	1247.6
Ethanol from Single Base Propellant Manufacturing	849.5
Plantwide NG Emissions (excluding NRE)	23.8
Rolled Powder Production	0.02
NRE Production	33.1
Waste Propellant Open Burning	4.5
Total VOCs	**2162.3**
PM10	
Combustion Sources	87.5
Contaminated Scrap Burning Area	0.0
Waste Propellant Open Burning	2.4
Total PM10	**89.9**
Nitrogen Oxides (NOx)	
Combustion Sources	1181.7
AOP	3.0
NC	3.2
Contaminated Scrap Burning Area	0.0
NAC/SAC	15.6
Waste Propellant Open Burning	0.9
Total NOx	**1204.4**
Sulfur Dioxide (SO_2)	
Combustion Sources	3208.7
NC	0.1
Contaminated Scrap Burning Area	0.0
Waste Propellant Open Burning	0.2
Total SO_2	**3208.9**
Carbon Monoxide (CO)	
Combustion Sources	31.8
Contaminated Scrap Burning Area	0.0
Waste Propellant Open Burning	12.8
Total CO	**44.6**

Summary of 2005 Air Emissions Continued

Lead (Pb)	
Combustion Sources	0.0
NRE (Yellow 33538 Paint)	0.0
Total Pb	**0.0**
Ammonia (NH_3)	
Combustion Sources	0.4
Total NH_3	**0.4**
PM2.5	
Combustion Sources	22.7
Totla PM2.5	**22.7**
Non-VOC/Non-PM10 Hazardous Air Pollutants (HAPs)	
Methylene Chloride*	0.45
Hydrogen Chloride (HCl)*	63.9
Hydrogen Fluoride (HF)*	8.0
Total non-VOC/non-PM10 HAPs	**72.3**
Total Air Emissions for 2005 (tons/yr)	**6805.6**

*Targeted Priority HAPs

Attachment CAA-2: Copies of Semi-Annual Monitoring Reports for 2010

Multi-Media Inspection Report

Radford Army Ammunition Plant
May 16 to 20, 2011

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COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY
Blue Ridge Regional Office
www.deq.virginia.gov

Douglas W. Domenech
Secretary of Natural Resources

David K. Paylor
Director

Robert J. Weld
Regional Director

Lynchburg Office
7705 Timberlake Road
Lynchburg, Virginia 24502
(434) 582-5120
Fax (434) 582-5125

Roanoke Office
3019 Peters Creek Road
Roanoke, Virginia 24019
(540) 562-6700
Fax (540) 562-6725

September 2, 2010

Ms. Paige Holt
Environmental Manager
Alliant Techsystems, Inc.
Radford Army Ammunition Plant
Route 114 PO Box 1
Radford, VA 24143

RE: **Registration No. 20656**

Dear Ms. Holt:

Enclosed is a copy of the report generated as a result of an inspection conducted by the Department of Environmental Quality on September 2, 2010.

The inspection report is based on observations made during the inspection and information reviewed in support of report generation. The existence of an inspection report indicating compliance with the applicable requirements listed in the report is not verification that your operation is in compliance with all applicable provisions of the Regulations for the Control and Abatement of Air Pollution. Regional staff evaluates all sources for compliance with the regulations on a continuous basis.

Please contact me at (540) 562-6850 should you have any questions regarding the content of this report.

Sincerely,

Mary S. Monroe

Mary S. Monroe
Air Compliance Engineer

DEQ VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

Commonwealth of Virginia

Registration No: 20656 **AFS Plant ID:** 121-00006

Plant Name: Alliant Techsystems Inc **Classification:** Major/Potential Major

Address: Peppers Ferry Rd **Region:** Blue Ridge

Report No: 270756

AIR INSPECTION REPORT

Inspection Date: 09/02/10 **Contact Name:** Phillip E Lockard

Type: PCE Without Site Visit **Contact Phone No:** (540)639-8344

Inspector: Mary S Monroe

Inspection Result: In Compliance

Air Program	Subpart
TITLE V	
SIP	

Reason:
Review T5 Semiannual Monitoring Report

****Additional Information is Attached****

Inspector Comments:
A Partial Compliance Evaluation was completed of a submittal from Alliant Techsystems, Inc. The facility submitted the Semi-annual Monitoring Report in accordance with the Title V Permit. The report was received on August 2, 2010 and supplemental information was received via electronic mail on August 25 and 26, 2010. This report covered the time period of January 1, 2010 through June 30, 2010

The facility identified the following deviations as a result of required monitoring:
Deviations due to malfunctions were addressed in letter: 6/2/10
Deviations were addressed in other report(s) dated: 6/3/10 Warning Letter response
"Other Deviations" which were not previously reported are described in the "Plant-wide Summary of Deviations". This spreadsheet included the equipment, description, duration and magnitude of emissions/opacity if known, and the corrective actions taken.
"Other Deviations" continued:
III.A.5. - Excess opacity from Boilers 2, 3, 4 and/or 5 as reported in the referenced summary
VII.A.4. - Fired heater acid gas outlet temperature < 500 degrees F during SCR operation on 2 dates (Nitrator Lines 1 and 2 were shutdown)
IV.A.7. - Excess opacity from the piccolo scrubber as reported in the referenced summary
X.A.7 and XIII.G. - Excess visible emissions from NAC/SAC Incinerators 2 or 3 as reported in the referenced summary
IX.A.1 and IX.B.1. - Excess 1-hour rolling average CO emissions occurred in the first quarter of 2010. Each instance did not exceed 20 minutes of waste residence time after waste feed to the incinerator automatically shutdown.
IX.A.1 & IX.B.1. - Combined lead & cadmium (SVM) > 230 micrograms/dscm - demonstrated during 9/09 CPT; Facility did not demonstrate compliance with the SVM emission standard until March 2010 for the 440/441 incinerators. (A Consent Order was issued on 3/22/10 to resolve the 2/9/10 Notice of Violation.)
XIII.X. - Maintenance records by contractors that serviced equipment are incomplete. The facility is continuing to work with contractors for refrigeration and HVAC equipment to ensure compliance with this condition.
XIII.Z. - The facility is updating and revising the RAFFP RMP.

DEQ
VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

Commonwealth of Virginia

Registration No:	20656	**AFS Plant ID:**	121-00006
Plant Name:	Alliant Techsystems Inc	**Classification:**	Major/Potential Major
Address:	Peppers Ferry Rd	**Region:**	Blue Ridge
		Report No:	270756

AIR INSPECTION REPORT

Inspector Comments:
Deviations were also listed in the Failure to Monitor, Keep Records or Report form. (See Applicable Requirements for additional deviations reported.)

Staff has reviewed and evaluated the reported deviations; and the corrective actions taken. The submittal included the Document Certification and Kent Holiday, VP & General Manager, Energetics Division and Antonio Munera, LTC, CM, Commanding, were the signing responsible officials.

Mary S. Monroe

Inspector's Electronic Signature
Approval Date: Sep 2, 2010

Frank Adams

Manager's Electronic Signature
Approval Date: 9/8/10

DEQ
VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

Commonwealth of Virginia

Registration No:	20656	**AFS Plant ID:**	121-00006
Plant Name:	Alliant Techsystems Inc	**Classification:**	Major/Potential Major
Address:	Peppers Ferry Rd	**Region:**	Blue Ridge
		Report No:	270756

INSPECTION CHECKLIST

Permit Date or Basis	#	Requirement Narrative	Observation	Comp Status
01-15-04	XIII. C.3	The permittee shall submit the results of monitoring contained in any applicable requirement to DEQ no later than March 1 and September 1 of each calendar year. This report must be signed by a responsible official, consistent with 9 VAC 5-80-80 G. (Note that much of the recordkeeping required by this permit also serves as required periodic monitoring to determine emissions compliance and therefore needs to be addressed in the periodic reports.). The details of the reports are to be arranged with the Director, West Central Regional Office. The reports shall include: a. The time period included in the report. The time periods to be addressed are January 1 to June 30 and July 1 to December 31. b. All deviations from permit requirements. For purposes of this permit, deviations include, but are not limited to: (1) Exceedance of emissions limitations or operational restrictions; (2) Excursions from control device operating parameter requirements, as documented by continuous emission monitoring, periodic monitoring, or compliance assurance	The TV SAMR was received in a timely manner. The following deviations were also reported: Failure to Monitor, Keep Records or Report: VII.B.1.: SCR NOx concentration data collected from 2:00 - 3:00 on 4/13/10 was not recorded in DAS. VII.B.3: After January 26, 2010, pressure drop readings for the tray scrubber were either missing or reported as "0" in Active Factory for at least one clock hour on dates listed. VII.B.5: The facility did not document the piccolo scrubber flow rate when the scrubber operated on June 26, 2010. IX.B.1: The total duration of excess emissions and/or OPL exceedances during this reporting period represent <0.10% and <0.25% of the operating time for 440 and 441 incinerators. All of the span values for the CMS have not been programmed into the AWFCO activation system. The facility will correct this issue during the third quarter of 2010. Uncorrected CO values >3000 ppmv may not be recorded as	In Compliance

Commonwealth of Virginia

Registration No:	20656	**AFS Plant ID:**	121-00006
Plant Name:	Alliant Techsystems Inc	**Classification:**	Major/Potential Major
Address:	Peppers Ferry Rd	**Region:**	Blue Ridge
		Report No:	270756

INSPECTION CHECKLIST

Permit Date or Basis	#	Requirement Narrative	Observation	Comp Status
		monitoring which indicates an exceedance of emission limitations or operational restrictions; or, (3) Failure to meet monitoring, recordkeeping, or reporting requirements contained in this permit. c. If there were no deviations from permit conditions during the time period, the permittee shall include a statement in the report that "no deviations from permit requirements occurred during this semi-annual reporting period." The report shall be sent to the following address: Director, West Central Regional Office ATTN: Air Compliance Manager Virginia DEQ 3019 Peters Creek Road Roanoke, VA 24019 (9 VAC 5-80-110 F)	10,000 ppmv as required by the MACT for determining hourly rolling average CO level. The facility will correct this issue during the third quarter of 2010. The 2004 NOC did not include an OPL for the one-hour rolling average minimum stack gas velocity to ensure that the calculated MTEC was below the applicable emission standard. The 2010 NOC included the required information. IX.C. One-hour rolling averages of certain OPLs are not the average of the previously recorded sixty one-minute averages. Additional information regarding this deviation was submitted via electronic mail on 8/25/10 and 8/26/10. The facility will correct this issue during the third quarter of 2010. IX.E. References excess exceedances reporting requirements for MACT EEE. This was addressed in the June 8, 2010 Warning Letter response. XIII.F.3 This deviation references reporting requirements for the	

DEQ
VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

Commonwealth of Virginia

Registration No:	20656	**AFS Plant ID:**	121-00006
Plant Name:	Alliant Techsystems Inc	**Classification:**	Major/Potential Major
Address:	Peppers Ferry Rd	**Region:**	Blue Ridge
		Report No:	270756

INSPECTION CHECKLIST

Permit Date or Basis	#	Requirement Narrative	Observation	Comp Status
			incinerators 440/441 CO CEMS. The facility has addressed this deviation and is now submitting the required reports in a timely manner.	

ATK Armament Systems
Energetic Systems
Radford Army Ammunition Plant
Route 114, P.O. Box 1
Radford, VA 24143-0100

www.atk.com

July 29, 2010

Mr. Robert Weld
Department of Environmental Quality
Blue Ridge Regional Office
3019 Peters Creek Road
Roanoke, VA 24019

Subject: Air Compliance Reports

Dear Mr. Weld:

Enclosed please find the DEQ form titled Semi-Annual Monitoring Report, including Plant-Wide Summary of Deviations and DEQ form titled Failure To Monitor, Keep Records Or Report, for the period of January 1 through June 30, 2010.

"Other deviations" are presented in the attached RFAAP Plant-wide Summary of Deviations spreadsheet, as per DEQ approval following discussions between Jody Lambert of DEQ and Paige Holt of RFAAP on May 22, 2004. As a means of clarifying terminology used at RFAAP, the Plant-wide Summary of Deviations spreadsheet contains footnotes.

This spreadsheet includes 157 exceedances of the visible emissions limit in permit condition III.A.5 for the RFAAP coal-fired boilers that are based on "credible evidence" generated by a continuous opacity monitoring system (COMS) on the common exhaust for these boilers. These occurred during periods of startup, shutdown, and soot blowing. RFAAP has included supporting information in the spreadsheet that indicates that the affected facility is maintained and operated during these incidents in a manner consistent with air pollution control practices for minimizing emissions in accordance with permit condition XIII.G. Exceedances associated with permit condition III.A.5 that lasted more than 60 consecutive minutes (1 hour) occurred on May 19, 2010 , so the written report dated June 2, 2010 to meet the prompt deviation reporting requirement in condition XIII.E and the malfunction reporting requirement in condition XIII.F is attached to this report.

This spreadsheet includes 14 exceedances of the visible emissions limit in permit condition X.A.7 for the RFAAP Nitric/sulfuric acid (NACSAC) concentrator/incinerator Train 2 exhaust (NSE02A/B) or Train 3 exhaust (NSE03A/B) that are based on "credible evidence" based on site experience that visible emissions are observed when the incinerator trips off rather than on EPA Method 9 visible emission evaluations (VEE). Similarly, this spreadsheet includes 1 exceedance of the visible emissions limit in permit condition VII.A.7 for the RFAAP NC process piccolo scrubber exhaust (NCC5B2) that are also based on "credible evidence" based on site experience. In the absence of EPA Method 9 VEE recorded for each of these events, RFAAP reports the date/time that the NACSAC incinerator shut down and then is started up as the time period that the visible emissions occurred. However, site experience indicates that the period of visible emissions begins several minutes after the incinerator trips off and continues for several minutes after the incinerator is re-started. Similarly, in the absence of EPA Method 9 VEE recorded on the piccolo scrubber exhaust, RFAAP reports the date/time that the NC fumes are routed to the piccolo as the time period that the visible emissions likely occurred. This information is included to indicate that the affected facility is maintained and operated during these incidents in a manner consistent with air pollution control practices for minimizing emissions in accordance with permit condition XIII.G. Each exceedance associated with permit condition X.A.7 or VII.A.7 lasted less than 60 consecutive minutes (1 hour) except for the incident that occurred on May 19, 2010. The prompt deviation reporting requirement in condition XIII.E and the malfunction reporting requirement in condition XIII.F was complied with for this event.

10-815-96
GDTwait

Should there be any questions regarding this report or any of the attachments herein, please contact Greg Twait of my staff, 540-639-8716.

Sincerely,

Paige W. Holt, Environmental Manager
Alliant Techsystems Inc.

Enclosures

10-815-96
GDTwait

To: DIRECTOR, BLUE RIDGE REGIONAL OFFICE, VADEQ

From: Radford Army Ammunition Plant **Registration Number** 20656

Re: SEMI-ANNUAL MONITORING REPORT – Pursuant to Title V Permit

Date: July 20, 2010

The following monitoring report is submitted as required by our Title V permit. For the purposes of this report, deviation means: (1) exceedances of emission limits, as determined by such means as stack testing, continuous emission monitors, parametric monitoring and EPA Method 9 visible evaluations; (2) excursions from control device operating parameter requirements such as afterburner temperature, scrubber flow rate, baghouse pressure drop; (3) excursions from operational restrictions such as throughput, fuel quality, and coating VOC and HAP content; and (4) failure to meet monitoring, recordkeeping or reporting requirements. The report addresses all data points, which are above a standard, limit etc, according to the averaging period, if any, specified in the permit. If no averaging period is specified in the permit, then any monitored reading which is outside a specified standard, limit or range is considered a deviation to be reported. Deviations are reported regardless of whether they may have caused excess emissions or whether they were the result of a malfunction.

The period covered by the report is from 1/1/2010 to 06/30/2010.

During the reporting period:

☐ **No deviations from permit requirements occurred during this semi-annual reporting period. We conducted all required monitoring and associated recordkeeping and reporting. Monitoring revealed no deviations from permit requirements.)**

☒ **We failed to conduct required monitoring/recordkeeping/reporting as explained on the attached form.**

☒ **We identified deviations as a result of required monitoring:**

- ☐ **Deviations were addressed in CEM Excess Emission Report(s) dated:** _____
- ☐ **Deviations were addressed in Fuel Report(s) dated:** _____
- ☐ **Deviations were addressed in MACT Report(s) dated:** _____
- ☒ **Deviations due to malfunctions were addressed in letters dated:** June 2
- ☒ **Deviations were addressed in other report(s) dated:** June 3
  - **Type of report:** Warning letter response
- ☐ **Deviations were previously described in Prompt Deviation Reports dated:** _____ _____
- ☒ **"Other deviations, which were not previously reported, are described in the Attachment** Plant-wide Summary of Deviations

Certification: I certify under penalty of law that this document and all attachments were prepared under by direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted, Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering and evaluating the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Kent Holiday VP & General Manager Energetics Division
(Signature and Date) *(Name & Title)*

for Antonio Munera, LTC, CM, Commanding
(Signature and Date) *(Name & Title)*

29 July 2010

"OTHER" DEVIATIONS

Submitted as Part of Semi-Annual Monitoring Report

Registration No. 20656 **Page** ___ **of** ___

Reporting Period: 1/1/2010 **to** 06/30/2010

Condition No. & Description of Requirement	Description of Deviation (time, emission unit, description of event, cause)	Description of Associated Monitoring Requirement	Description of corrective measures taken (demonstrating a timely & appropriate response)
III.A.5 Boilers 2, 3, 4, and/or 5 visible emissions < 20% opacity	Excess opacity from Boilers 2, 3, 4, and/or 5 as reported in attached summary of deviations	Other material information provided by COMS voluntarily installed and placed in operation during 2007.	Followed SOP as reported in attached summary of deviations
VII.A.4 Fired heater acid gas outlet temperature between 500- 650 °F during operation	Fired heater acid gas outlet temperature < 500 °F during SCR operation on these dates while both Nitrator Lines 1 and 2 were shut down: • Jan. 14 14:30-15:00 • Apr. 21 17:00-18:30	Active Factory tag ID 3055-TI-647 and daily operating logsheets that record temperature hourly	Title V permit does not indicate whether "operation" refers to SCR operation or operation of the NC nitrators. Both of these temperature excursions occurred while the SCR was in operation but was only controlling emissions from acid storage tanks.
IV.A.7 visible emissions < 20% opacity	Excess opacity from piccolo scrubber as reported in attached summary of deviations may have occurred on June 26, 2010 while piccolo scrubber was in operation following unplanned steam and power outage. NC nitration equipment was vented through the piccolo scrubber during an orderly shutdown of the process following the power outage.	Other material information provided by Method 22 observations of visible emissions	Followed SOP to shutdown NC nitrators when SCR is bypassed as reported in attached summary of deviations.

"OTHER" DEVIATIONS

Submitted as Part of Semi-Annual Monitoring Report

Registration No. 20656 **Page ___ of ___**

Reporting Period: 1/1/2010 to 06/30/2010

Condition No. & Description of Requirement	Description of Deviation (time, emission unit, description of event, cause)	Description of Associated Monitoring Requirement	Description of corrective measures taken (demonstrating a timely & appropriate response)
X.A.7 and XIII.G Visible Emissions <20% opacity	Excess visible emissions from NACSAC Incinerators 2 or 3 as reported in attached summary of deviations and from AOP lines 1 and 3 startup vents	Other material information provided by Method 22 observations of visible emissions	Followed SOP to shutdown NACSAC train as reported in attached summary of deviations. The existing NACSAC incinerators will be permanently shutdown 1 year after the new NACSAC facility is started up. Minimized AOP startup emissions by routing process vents to power recovery (XRD recovery) as soon as practical after gauze is lit in AOP converter.
IX.A.1 and IX.B.1 CO> 100 ppmv, over an hourly rolling average, dry basis, corrected to 7% O2 and PM	Excess 1-hr rolling average CO emissions occurred as reported in the 1Q10 quarterly CO EER report. Each instance did not exceed 20 minutes of waste residence time after waste feed to incinerator automatically stopped by high CO. Refer to 1Q10 quarterly CO EER report for additional details regarding CO exceedances.	CO are continuously monitored and automatically shut down waste feed to the incinerator.	Accordingly, RFAAP AWFCO system required by HWC MACT regulations automatically shuts down waste feed when excess 1-hr rolling average CO exceeds 100 ppmv or when any other OPLs exceed the values reported in the most recent NOC. RFAAP conducted annual operator refresher HWC MACT training in April 2010 to ensure that CO emissions are minimized during incinerator operations and during waste residence period after shutdowns. No CO exceedances occurred in 2Q10.

"OTHER" DEVIATIONS
Submitted as Part of Semi-Annual Monitoring Report

Registration No. 20656 **Page** ___ **of** ___
Reporting Period: 1/1/2010 **to** 06/30/2010

Condition No. & Description of Requirement	Description of Deviation (time, emission unit, description of event, cause)	Description of Associated Monitoring Requirement	Description of corrective measures taken (demonstrating a timely & appropriate response)
IX.A.1 and IX.B.1 Combined lead and cadmium > 230 micrograms/dry std. cubic meter	Combined lead and cadmium (SVM) emissions during CPT of 441 incinerator conducted on Sept. 22-23, 2009 and during mini-burn conducted Feb. 2-3, 2010 exceeded 230 micrograms/dry std. cubic meter. Accordingly, RFAAP could not demonstrate compliance with the SVM emission limit on the dates that lead-bearing waste propellant were fed to 440 or 441incinerator between January 1 and February 19, 2010 during this reporting period.	Combined lead and cadmium emissions are not monitored. CPT is conducted as required to demonstrate compliance with the emission limits. These OPLs (operating parameter limits) are established based on the CPT to ensure ongoing compliance with the lead and cadmium emission rates: • 12-hr rolling average lead/cadmium feed rate • Hourly rolling average stack gas velocity • Kiln pressure • Inlet BH temperature • 12-hr rolling average chlorine feed rate	RFAAP demonstrated compliance well below the SVM emission limits during CPT conducted March 24-27, 2010 on both 440 and 441 incinerators. RFAAP operated RCRA waste incinerators 440/441 in accordance with the May 2004 Notice of Compliance according to DEQ letter dated Nov. 20, 2009 until consent order signed on Mar. 22, 2010. Operated RCRA waste incinerators 440/441 in accordance with consent order signed on Mar. 22, 2010 until DEQ terminated the consent order on May 13, 2010. RFAAP believes that the lead spiking solution may have caused or at least contributed to the unexpectedly high lead emissions during the Sept. 2009 and Feb. 2010 stack tests. RFAAP also modified the 440 and 441 baghouse divert valves after the Feb. 2010 internal inspection of the valves and prior to the March 2010 CPT. (Some particulate bypass could have been occurring when the 440 or 441 divert valve was in the closed position during the Sept. and Feb. tests.)

"OTHER" DEVIATIONS
Submitted as Part of Semi-Annual Monitoring Report

Registration No. 20656 **Page** ___ **of** ___
Reporting Period: 1/1/2010 **to** 06/30/2010

Condition No. & Description of Requirement	Description of Deviation (time, emission unit, description of event, cause)	Description of Associated Monitoring Requirement	Description of corrective measures taken (demonstrating a timely & appropriate response)
XIII.X Comply with 40 CFR Part 82, Subparts A to F for all Class I or II substances.	Maintenance records by contractors who serviced equipment are incomplete and do not record the full refrigerant charge in each circuit of service refrigeration equipment. Full refrigerant charge in each circuit is not readily available for RFAAP equipment for reference by the servicing contractors. So, percent leak rates were not recorded during each instance that a Class II substance was charged into equipment subject to these leak repair and record-keeping requirements. RFAAP records indicate that no Class I substances are present in any on-site refrigeration equipment but that Class II substances are present. Only refrigeration equipment with more than 50# charge of a Class II substance in any circuit is subject to this % leak rate record-keeping and reporting requirement, but RFAAP records do not readily identify which of its existing refrigeration equipment contains more than 50# of a Class II substance in at least one circuit.	RFAAP periodically reviews contract maintenance equipment servicing records for compliance with this permit condition.	During 2H10, RFAAP is continuing to work with its maintenance contractors for refrigeration and HVAC equipment to ensure that they comply with this permit condition. RFAAP is establishing a site-wide equipment list to include which equipment is subject to this regulation referenced by this permit condition.

"OTHER" DEVIATIONS
Submitted as Part of Semi-Annual Monitoring Report

Registration No. 20656 **Page** ___ **of** ___
Reporting Period: 1/1/2010 **to** 06/30/2010

Condition No. & Description of Requirement	Description of Deviation (time, emission unit, description of event, cause)	Description of Associated Monitoring Requirement	Description of corrective measures taken (demonstrating a timely & appropriate response)
XIII.Z. Accidental Release Prevention If the permittee has more, or will have more than a threshold quantity of a regulated substance in a process, as determined by 40 CFR 68.115, the permittee shall comply with the requirements of 40 CFR Part 68.	RFAAP conducted an RMP compliance audit of the requirements of 40 CFR Part 68 Subpart D pursuant to 40 CFR 68.79 during 2Q10. As a result of this audit, RFAAP discovered opportunities to enhance its existing records to more quickly demonstrate compliance with several specific RMP requirements applicable to RFAAP ammonia and strong nitric acid storage area "processes". Some of these record-keeping gaps may also represent a deviation from the RMP requirement in 68.12(d)(3) to "implement the prevention requirements of 68.65 through 68.87."	Various records referenced by or incorporated in the current RFAAP RMP are either out-dated or not specific enough, including, but not limited to: PSI (68.65) PHAs (68.67) Op. procedures (68.69) Training (68.71) Mech. Integrity (68.73) Compliance Audits (68.79) Incident Investigation (68.81) Employee Participation (68.83) Contractors (68.87)	The RFAAP RMP is being reviewed and will be revised and electronically submitted to EPA by October 2010 pursuant to 68.190(a). During 2H10, RFAAP is reviewing its existing OSHA PSM record-keeping procedures and enhancing them, where applicable, in OSHA PSM areas also subject to EPA RMP requirements for Program 3 processes.

(Report deviations which may have caused excess emissions for more than one hour on a prompt deviation report form, not here)

FAILURE TO MONITOR, KEEP RECORDS OR REPORT **Registration No. 20656 Page ___ of ___**

Submitted as Part of Semi-Annual Monitoring Report **Reporting Period: 1/1/10 to 06/30/10**

Permit Condition No. & DESCRIPTION OF REQUIREMENT	DESCRIPTION OF DEVIATION (including date)	REASON FOR DEVIATION & CORRECTIVE ACTION TAKEN
VII.B.1–The SCR exhaust shall be equipped with a continuous emissions monitor to measure and record the concentration of NOx. The monitor shall be maintained, located, and calibrated in accordance with approved procedures (ref. 40 CFR 60.13 and 40 CFR 60 Appendix B).	The SCR outlet NOx concentration data collected from 2:00-3:00 pm EST on 4/13/10 was not recorded in the data acquisition system (DAS). Nitrator line 1 was operating during this period.	The Windows installed on the data acquisition system's (DAS) computer was adjusted for daylight savings time sometime between April 1 and April 13, 2010. The regulations require that all time stamps for the NOx emission data must be recorded using standard not daylight savings timestamps. When this issue was discovered on April 13, 2010 and the PC Windows clock setting changed back to standard time, the data collected from 2:00-3:00 pm EST on 4/13/10 was not recorded in the DAS. However, all time stamps for previously collected data were corrected to standard time. Corrective action taken was to set the clock back from 2:47 pm EDT to 1:47 pm EST on April 13, 2010 as soon as this issue was identified. Communicated to operations personnel the reason why the time cannot be changed. Confirmed that the most recent revision of the SOP for the SCR system already included the requirement to maintain the DAS computer on standard time.

FAILURE TO MONITOR, KEEP RECORDS OR REPORT Registration No. 20656 Page ___ of ___

Submitted as Part of Semi-Annual Monitoring Report Reporting Period: 1/1/10 to 06/30/10

Permit Condition No. & DESCRIPTION OF REQUIREMENT	DESCRIPTION OF DEVIATION (including date)	REASON FOR DEVIATION & CORRECTIVE ACTION TAKEN
VII. B.3 Continuously measure tray scrubber differential pressure drop.	RFAAP discovered during 2H09 that continuously recorded data of tray scrubber differential pressure drop had been inaccurate since 2007 when one of the two pressure taps were removed from this device. As previously reported, this deviation began prior to January 1, 2010 until the instrument was operational and began being continuously recorded on January 26, 2010. After January 26, 2010, pressure drop records for this parameter on multiple dates either missing or reported as "0" in Active Factory for at least one clock hour on these dates when the nitrators that vent into the tray scrubber were in operation: 4/6/10 5/6/10 5/15/10 5/25/10 5/26/10 5/29/10 6/2/10 6/4/10 6/6/10 6/8/10 6/9/10 6/10/10 6/11/10 6/13/10 6/14/10 6/15/10 6/16/10 6/17/10 6/22/10 6/23/10 6/24/10 6/25/10 6/28/10 6/29/10 6/30/10	Operations and maintenance personnel were not aware that this monitoring device was required by the permit. RFAAP personnel responsible for reporting did not realize that the continuously recorded data was invalid. RFAAP personnel made this monitor operational ASAP after discovery of this deviation on January 26, 2010. On the dates after 1/26/10, RFAAP has not yet determined why tray scrubber pressure drop is recorded as "0" in Active Factory and as a negative value in the CIRRUS DAS during these periods when either Line 1 or 2 was nitrating and the fan indicates typical vent gas flow rates through the scrubber.
VII. B.5 Observe piccolo scrubber liquid flow rate with a frequency sufficient to ensure good performance.	RFAAP procedures prior to May 27, 2010 did not require operators to document compliance with this monitoring requirement when the piccolo scrubber is infrequently used. During this reporting period, no log readings document that flow to the piccolo scrubber was observed when piccolo scrubber operated on June 26, 2010.	RFAAP added section 6.2.3.1 to revised SOP 4-14-318 effective 5/27/10 to include the requirement that the piccolo scrubber flow rate be recorded at least once per shift when it is operational. Operations management to emphasize compliance with this requirement with all affected operators during 3Q2010. New screens in the Nitrator and SCR control room and associated Active Factory are being implemented during 2H2010 that will provide additional record of the liquid flow rate to the piccolo scrubber.

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Submitted as Part of Semi-Annual Monitoring Report **Reporting Period: 1/1/10 to 06/30/10**

Permit Condition No. & DESCRIPTION OF REQUIREMENT	DESCRIPTION OF DEVIATION (including date)	REASON FOR DEVIATION & CORRECTIVE ACTION TAKEN
IX.B.1 The permittee shall comply with the operating requirements and operating parameter limits specified in the September 29, 2003 or most current Documentation of Compliance prepared pursuant to 40 CFR 63, Subpart EEE, Section 63.1211; with the operating requirements and operating parameter limits specified in the Notification of Compliance prepared pursuant to 40 CFR 63, Subpart EEE, Section 63.1210; and with monitoring requirements in accordance with 40 CFR 63, Subpart EEE, Section 63.1209.	As listed in the 1H10 semi-annual report submitted pursuant to section 63.1210, the continuous CO monitor records excess emissions and continuous parametric monitoring systems exceed OPLs (operating parameter limits) which either activate the AWFCO (automatic waste feed cutoff) system or occur after it is activated but while residual waste may still be in rotating kiln incinerator. The total duration of excess emissions and/or OPL exceedances during this reporting period represent <0.10% and <0.25% of the operating time for 440 and 441 incinerators, respectively. Nevertheless, each instance represents a deviation from this requirement.	Revised OPLs were established based on the CPTs conducted in September 2009 and in March 2010. RFAAP submitted a revised NOC including these revised OPLs on April 27, 2010. AWFCO system is activated whenever OPLs or emission limits are exceeded to ensure that each instance does not exceed the waste residence period of 20 minutes after waste propellant feed is shut off.
	RFAAP discovered during an internal review of its MACT compliance activities conducted during 1Q10 that not all of the span values for the continuous monitoring systems have not been programmed into the AWFCO activation as required by 63.1206(c)(3)(i)(B) (except for hourly rolling average CO). For example, the 441 O2 analyzer used to monitor corrected CO concentrations malfunctioned and recorded span values of "0" on June 16, 2010 from 3:51 -9:35 am but the 441 AWFCO did not activate.	The RFAAP Systems Engineering project to correct this issue is scheduled for completion during 3Q2010.
	RFAAP discovered during an internal review of its MACT compliance activities conducted during 1Q10 that the current monitoring and record-keeping system does not identify "out-of-control" data nor allow for such data to be excluded from rolling average calculations as required by 63.8(g)(5) [1]. The only instance identified during this reporting period when "out-of-control" data occurred was when the 441 O2 analyzer used to monitor corrected CO concentrations malfunctioned and recorded span values of "0" on June 16, 2010 from 3:51 -9:35 am. The 441 CO CEMS analyzer readings recorded during this period could not be corrected to 7% O2 during this period.	The RFAAP Systems Engineering project to correct this issue is scheduled for completion during 3Q2010.
	RFAAP discovered during an internal review of its MACT compliance activities conducted during 1Q10 that the any uncorrected CO values >3000 ppmv may not be recorded as 10,000 ppmv as required by 63.1209(a)(3)(i) for determining hourly rolling average CO.	The RFAAP Systems Engineering project to correct this issue is scheduled for completion during 3Q2010

[1] Monitoring data recorded during periods of unavoidable CMS breakdowns, out-of-control periods, repairs, maintenance periods, calibration checks, and zero (low-level) and high-level adjustments must not be included in any data average computed under this part.

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Permit Condition No. & DESCRIPTION OF REQUIREMENT	DESCRIPTION OF DEVIATION (including date)	REASON FOR DEVIATION & CORRECTIVE ACTION TAKEN
IX.B.1 (cont.)	Paragraph 63.1209(l)(1)(iii)(D)(*1*) of 40 CFR 63 Subpart EEE requires that a minimum gas flowrate and a maximum feedrate limit of mercury be identified in the NOC to ensure that the calculated MTEC (maximum theoretical emission concentration) is below the mercury OPL of 130 micrograms/dscm (that was included in the May 2004 NOC and October 2008 DOC.) Neither the NOC nor the DOC included an OPL for one-hour rolling average minimum stack velocity. Paragraph 63.1209(l)(1)(iii)(D)(*2*) of 40 CFR 63 Subpart EEE requires AWFCO be initiated when either the minimum gas flowrate or the maximum feedrate limit of mercury is exceeded. The AWFCO system prior to May 2010 during this reporting period was not initiated when stack velocity dropped below the minimum value used to calculate the MTEC. No instances occurred during this reporting period when stack gas velocity dropped below the calculated minimum flowrate to establish the MTEC.	The revised OPLs include mercury OPL based on 12-hr rolling average feed rate calculated at a minimum one-hour rolling average stack gas velocity of 20 feet/second. The minimum stack gas velocity AWFCO activation was added to both incinerators during May 2010 after the revised NOC was submitted. During this reporting period, the 12-hr rolling average of mercury feed rate of mercury present in waste propellant did not exceed the OPL and the stack gas velocity did not drop below 20 fps during the waste residence time in the 440 or 441 kiln, either before or after the minimum stack gas velocity activation was added to the AWFCO system.

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Submitted as Part of Semi-Annual Monitoring Report **Reporting Period: 1/1/10 to 06/30/10**

Permit Condition No. & DESCRIPTION OF REQUIREMENT	DESCRIPTION OF DEVIATION (including date)	REASON FOR DEVIATION & CORRECTIVE ACTION TAKEN
IX.E. The permittee shall comply with reporting requirements in accordance with 40 CFR 63, Subpart EEE, Section 63.1211.	Section 63.1211 references the excess exceedances reporting requirements in 63.1206(c)(3)(vi). RFAAP discovered during an internal review of its MACT compliance activities conducted during 1Q10 that its record-keeping procedures did not readily identify when 10 OPL exceedances occurred within a 60-day period. DEQ also identified this issue in its warning letter dated May 19, 2010. RFAAP identified a 60-day period between Feb 3 and March 25, 2010 during which more than 10 OPL and/or emission exceedances occurred while 441 incinerator was in operation. RFAAP did not submit the report required within 5 working days per 63.1206(c)(3)(vi) until June 8, 2010, in its response to the DEQ warning letter dated May 19, 2010. The investigation of each of these incidences was not recorded in the operating plan and the SSM plan was not revised within 45 days of the 10th exceedance as required by 63.1206(c) (2)(v)(A)(3)(i).	Current RFAAP monitoring and record-keeping systems do not readily identify which incidents recorded on AWFCO trip forms resulted in an OPL exceedance that may trigger this HWC MACT prompt reporting requirement. (Many incidents recorded on the AWFCO trip form are automatic waste feed cutoff activations that are not associated with 63.1211 requirements.) RFAAP revised its internal recordkeeping systems so that the ATK environmental "on-call" designee is verbally notified when each AWFCO trip occurs. This allows ATK environmental dept. to promptly investigate each AWFCO trip to determine whether it needs to be counted as one of the "10 in 60" incidents that would trigger the reporting requirements in 63.1206(c)(3)(vi). ATK conducted "live" annual incinerator operator training during April 2010 to identify opportunities to reduce the number of AWFCO activations. Revisions to the SSM plan are scheduled for completion during 3Q2010

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Submitted as Part of Semi-Annual Monitoring Report **Reporting Period: 1/1/10 to 06/30/10**

Permit Condition No. & DESCRIPTION OF REQUIREMENT	DESCRIPTION OF DEVIATION (including date)	REASON FOR DEVIATION & CORRECTIVE ACTION TAKEN
IX.C. The permittee shall maintain records in accordance with 40 CFR 63, Subpart EEE, Section 63.1211.	RFAAP discovered during an internal review of its MACT compliance activities conducted during 1Q10 that some records were missing or incorrect: ➢ 1-hr rolling averages of these OPLs are not the average of the previously recorded sixty 1-min average records for these OPLs: o Kiln exit temperature o Afterburner exit temperature o Inlet BH temperature o Stack gas velocity o Scrubber water flow o Slurry feed rate ➢ Operations and Maintenance Plan did not include Baghouse Leak Detector initial adjustment records and had not been updated since Sept. 2003 ➢ RFAAP did not maintain records documenting completion of several operations tasks identified in the O&M plan ➢ Operator response to High Emission Alarm within 30 minutes from the Bag Leak Detectors are not documented unless AWFCO is also activated before or simultaneously when the alarm sounds ➢ Feedstream Analysis Plan (FAP) includes outdated methods that are no longer practiced ➢ Startup/Shutdown/Malfunction (SSM) plan has not been updated since 2003 to include additional malfunctions, investigation requirements for recurring malfunctions, and revised response procedures to such malfunctions. ➢ Logs used to document SSM events do not ensure the immediate and prompt SSM reporting requirements are met. ➢ Computer-based operator annual refresher training had not been updated since 2003 and did not ensure consistent operator response to process upsets and AWFCO activations ➢ Site procedures did not document why some AWFCO checks are conducted monthly vs. weekly and why some 12-hr rolling average AWFCO activations were not routinely tested.	In follow-up to its internal review of its MACT compliance programs, RFAAP updated the O&M plan, operating refresher training materials, and FAP plan during 2Q2010. Annual operator refresher training was conducted "live" using the revised training materials for all but 1 of the current incinerator operators during April 2010. As also documented in the response to the DEQ warning letter dated May 19, 2010, RFAAP documented its initial adjustment records for the 440/441 bag leak detector alarms and implemented revised log forms to ensure that the log sheets document that corrective actions to leak detector High Emissions Alarms are implemented within 30 minutes of the alarm. All of the 12-hr rolling average AWFCO activations were documented as routinely tested beginning May 2010. In addition, RFAAP is reviewing the control systems logic for its OPL averaging calculations to identify why these 6 hourly rolling average records cannot be manually validated exactly by averaging the corresponding 1-minute averages for those OPLs. The RFAAP Systems Engineering project to correct this issue is scheduled for completion during 3Q2010. The procedures for conducting AWFCO tests is being revised during 3Q2010 to either conduct all AWFCO tests weekly or to enhance documentation why some AWFCO tests are conducted monthly instead. The SSM plan is being revised during 3Q2010 and the waste propellant analysis lab procedures referenced by the FAP are being documented during 2H2010.

ATK Armament Systems
Energetic Systems
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www.atk.com

June 2, 2010

Ms. Mary Monroe
Department of Environmental Quality
West Central Regional Office
3019 Peters Creek Road
Roanoke, Virginia 24019

Subject: Excess Opacity from the Powerhouse at Radford Army Ammunition Plant

Dear Ms. Monroe:

This is in follow-up to three separate incidents of excess opacity that occurred at the Radford Army Ammunition Plant (RFAAP) powerhouse that were reported to you on May 20, 2010. Below is a description of the incidents.

At approximately 6:00 AM on May 19, Boilers 2, 4 and 5 were operating when a high vibration was noted on the No.5 ID fan. The boiler was shut down due to a failure of the fan bearing. Work began to repair the bearing, and excess opacity was limited to less than an hour. Boilers 2 and 4 continued to operate; Boiler 3 was already out of service for annual maintenance.

Later that morning, the safety relief valve on Boiler 4 actuated at approximately 10 am, but did not properly reseat. The powerhouse personnel acted quickly to maintain acceptable steam load and opacity throughout the day while repairs were made to the No.5 ID fan, with the expectation that the Boiler 5 could be brought back on line quickly to facilitate repairs to the No. 4 relief valve. However, the repairs took longer than anticipated due to four bolt holes in the pillow block and base plate that were either broken or stripped by the vibration.

At approximately 7:48 PM, the coal feed pipe to the No. 4A Pulverizer became plugged. Fuel oil was used in the No. 4 boiler to help support steam load while the blockage was cleared. Excessive visible emissions occurred as a result of these events. In order to reduce steam load and visible emissions while normal coal feed was restored to No. 4 Boiler, the nitrocellulose production area took some of their equipment off line. Visible emissions remained above 20% opacity from approximately 7:48 PM to approximately 9:12 PM on May 19. The maximum emissions measured during this incident were 86% opacity.

The second incident began at approximately 3:36 AM on May 20, 2010 as a result of the loss of draft in No. 2 Boiler. The loss of draft was determined to be caused by a buildup of ash in the upper furnace pass. Fuel oil was used to support steam pressure while the ash buildup was removed, and equipment in the NC area was again removed from service to decrease load. Visible emissions remained above 20% opacity from approximately 3:42 AM to approximately 4:54 AM on May 20.

10-815-91
PE Lockard

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Submitted as Part of Semi-Annual Monitoring Report **Reporting Period: 1/1/10 to 06/30/10**

Permit Condition No. & DESCRIPTION OF REQUIREMENT	DESCRIPTION OF DEVIATION (including date)	REASON FOR DEVIATION & CORRECTIVE ACTION TAKEN
XIII.F.3 Each owner required to install a continuous monitoring system subject to 9 VAC 5-40-41 or 9 VAC 5-50-410 shall submit a written report of excess emissions (as defined in the applicable emission standard) to the board for every calendar quarter. All quarterly reports shall be postmarked by the 30th day following the end of each calendar quarter and shall include the following information: a. The magnitude of excess emissions computed in accordance with 40 CFR 60.13(h) or 9 VAC 5-40-41 B 6, any conversion factors used, and the date and time of commencement and completion of each period of excess emissions; b. Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the source. The nature and cause of any malfunction (if known), the corrective action taken or preventative measures adopted; c. The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments; and d. When no excess emissions have occurred or the continuous monitoring systems have not been inoperative, repaired or adjusted, such information shall be stated in the report.	As previously reported for the reporting period from July 1 through December 31, 2009, RFAAP had been submitting a written excess emission report (EER) for the 440/441 incinerator CO continuous monitors that met the requirements of condition XIII.F.3for the reporting periods through June 20, 2009. However, RFAAP had been submitting those EERs on a semi-annual rather than quarterly basis and had been submitting those CO EERs as the MACT Subpart EEE periodic reports for 440/441 incinerators. For the reporting period from July 1 through December 31, 2009, RFAAP submitted a periodic report for 440/441 incinerators to DEQ on February 2, 2010 that met the requirements of MACT Subpart EEE but did not submit an CO excess emissions report by January 30, 2010 that met all the requirements of condition XIII.F.3.	RFAAP reporting systems did not identify that two different periodic reports were required to be submitted for the explosive waste incinerators. Excess CO emissions are reported in the quarterly EER required by this permit condition and are also included (as OPL exceedances) in the semi-annual HWC MACT reports required by permit condition IX.E. RFAAP submitted 3Q09 and 4Q09 CO EERs that met the requirements listed in Title V permit condition XIII.F.3 to DEQ on April 1, 2010. RFAAP submitted 1Q10 CO EER that met the requirements listed in Title V permit condition XIII.F.3 to DEQ before April 30, 2010. RFAAP submitted 2Q10 CO EER that met the requirements listed in Title V permit condition XIII.F.3 to DEQ before July 30, 2010.

The maximum emission measured during this incident was 77% opacity.

The third incident occurred at approximately 11:15 AM on May 20, 2010 when the boom of a line crew pole truck struck an 8-inch steam line in one of RFAAP's production areas. This resulted in a partial fracture of the line, which greatly increase steam load on the powerhouse. Fuel oil was used to support steam pressure while the ruptured line was isolated. Visible emissions remained above 20% opacity from approximately 11:18 AM to approximately 12:30 PM on May 20. The maximum emission measured during this incident was 87% opacity.

Please feel free to call Phil Lockard (540-639-8344) if you have any questions or need additional information.

Sincerely,

Paige Holt, Environmental Manager
Alliant Techsystems Inc.

10-815-81
PE Lockard

Plant-wide Summary of Deviations												
				Unit								
Date	Start Time	Area	Equipment	#1	#2	#3	#4	#5	Description of Deviation and Root Cause	Duration	Magnitude of Emissions or Opacity, If Known	Immediate Response and Corrective Action
1/4/2010	4:50 PM	Acid	Incinerator		X				Tripped out.	14 Minutes	Unknown	Relit at 5:04pm
1/4/2010	5:05 PM	Acid	Incinerator		X				Tripped out.	7 minutes	Unknown	Relit at 5:12pm
1/5/2010		WW	WWTP Eq Basin						Sample of WWTP EQ Basin influent was not analyzed for VOC as required by Title V	24 hours	Nap	WWTP to improve its system to ensure that composite samples are collected, delivered to the lab, and analyzed daily.
1/5/2010	1:42 AM	PH	Boiler #5					x	5A Feeder plugged up	12 minutes, intermittently	28.8%	Followed SOP
1/8/2010	6:12 PM	PH	Boilers						Blowing soot	18 minutes, intermittently	32.8%	
1/8/2010	4:30 PM	PH	Boiler #3			X			3A Feeder plugged up, belt out of adjustment	30 minutes	40.6%	
1/9/2010	6:30 PM	PH	Boilers						Blowing soot	18 minutes	30.7%	
1/10/2010	6:12 AM	PH	Boilers						Blowing soot	30 minutes	35.8%	
1/10/2010	6:06 PM	PH	Boilers						Blowing soot	36 minutes	45.0%	
1/11/2010	6:12 AM	PH	Boilers						Blowing soot	30 minutes, intermittently	32.9%	
1/11/2010	5:24 PM	PH	Boilers						Blowing soot	30 minutes, intermittently	49.8%	
1/11/2010	10:42 PM	PH	Boilers						Blowing soot	12 minutes	31.1%	
1/12/2010	6:18 AM	PH	Boilers						Blowing soot	24 minutes, intermittently	37.0%	
1/12/2010	5:00 PM	PH	Boilers						Blowing soot	12 minutes, intermittently	26.2%	
1/14/2010	6:18 PM	PH	Boilers						Blowing soot	12 minutes, intermittently	23.5%	
1/15/2010	6:12 AM	PH	Boilers						Blowing soot	30 minutes	60.0%	
1/17/2010	6:36 AM	PH	Boilers						Blowing soot	18 minutes	39.1%	
1/17/2010	9:42 AM	PH	Boilers					x	Shutdown BLR 5	30 minutes, intermittently	39.5%	
1/17/2010	6:00 PM	PH	Boilers						Blowing soot	24 minutes, intermittently	32.3%	
1/18/2010	9:54 AM	PH	Boilers					x	Startup BLR 5	12 minutes	33.7%	
1/25/2010	8:30 AM	PH	Boilers						Process problems?	12 minutes	39.8%	
1/25/2010	6:18 PM	PH	Boilers						Blowing soot	12 minutes, intermittently	27.8%	
1/26/2010	1:30 AM	PH	Boilers				x		4A pulverizer suddenly stopped	18 minutes	69.7%	
1/26/2010	6:12 PM	PH	Boilers						Blowing soot	12 minutes, intermittently	22.6%	
1/28/2010	7:24 AM	PH	Boilers		2				2A mill plugged coal line required supplemental fuel oil to maintain steam load	18 minutes	41.0%	
1/30/2010	9:30 PM	Acid	Incinerator		X				Tripped out.	15 minutes	Unknown	Relit at 9:45pm.
1/30/2010	8:30 AM	PH	Boilers						Process problems?	12 minutes, intermittently	26.6%	
1/31/2010	2:40 AM	Acid	Incinerator		X				Tripped out. Cooling fan relay tripped	15 minutes	Unknown	Wouldn't relight, feeds off at 2:55am.
1/31/2010	5:38 PM	Acid	Incinerator		X				Tripped out.	13 minutes	Unknown	Relit at 5:51pm.
2/1/2010	6:06 PM	PH	Boilers						Blowing soot	12 minutes	40.0%	
2/2/2010	11:48 AM	PH	Boilers						Coal feeder failure - boiler #?	24 minutes, intermittently	63.3%	
2/2/2010	9:36 PM	PH	Boilers						Coal feeder failure due to wet coal - boiler #?	12 minutes	57.2%	
2/3/2010	1:48 AM	PH	Boilers					x	Loss of coal feed due to wet coal caused BLR 5 flameout	12 minutes	58.9%	

Plant-wide Summary of Deviations												
				Unit								
Date	Start Time	Area	Equipment	#1	#2	#3	#4	#5	Description of Deviation and Root Cause	Duration	Magnitude of Emissions or Opacity, if Known	Immediate Response and Corrective Action
2/3/2010	12:00 PM	PH	Boilers					x	Loss of coal feed due to wet coal caused BLR 5 flameout	12 minutes, intermittently	35.1%	
2/6/2010	6:54 PM	PH	Boilers		x				2A mill plugged coal line required supplemental fuel oil to maintain steam load	18 minutes	53.6%	
2/7/2010	9:38 AM	Acid	Incinerator		X				Tripped out Nac vaccum	7 minutes	Unknown	Relit at 9:45am
2/7/2010	2:36 AM	PH	Boilers		x	x	x	x	Wet coal plugged feeder pipes	12 minutes, intermittently	31.2%	
2/8/2010	7:36 AM	PH	Boilers						Blowing soot	18 minutes, intermittently	25.1%	
2/8/2010	10:30 AM	PH	Boilers		x				Loss of power to BLR2 due to electrical transients	18 minutes	51.4%	
2/11/2010	6:12 PM	PH	Boilers						Blowing soot	12 minutes	24.9%	
2/12/2010	1:08 AM	PH	Boilers		x	x	x	x	Wet coal plugged feeder pipes	12 minutes, intermittently	30.0%	
2/12/2010	4:12 AM	PH	Boilers			x			Pulverizer 2A/2B overloaded & tripped out due to wet coal	12 minutes, intermittently	38.0%	
2/12/2010	7:12 AM	PH	Boilers		x				Pulverizer 2B overloaded & tripped out due to wet coal	24 minutes	43.6%	
2/12/2010	8:08 AM	PH	Boilers						Blowing soot	24 minutes, intermittently	37.0%	
2/13/2010	12:12 PM	PH	Boilers			x			Mill 3A overloaded & tripped out due to wet coal	18 minutes, intermittently	32.4%	
2/13/2010	6:24 PM	PH	Boilers		x				Mill 2B overloaded & tripped out due to wet coal	48 minutes, intermittently	34.5%	
2/13/2010	11:30 PM	PH	Boilers		x				Wet coal plugged feeder pipes	12 minutes	61.0%	
2/15/2010	12:48 PM	PH	Boilers						Overloaded other boilers when feeder pipe rod got stuck in BLR ?? Feeder pipe & pulverizer suddenly shut down	18 minutes	49.9%	
2/18/2010	4:25 PM	Acid	Incinerator		X				Tripped out Low flame signal	15 minutes	Unknown	Relit at 4:40pm
2/18/2010	5:35 PM	Acid	Incinerator		X				Tripped out Changed pyro tanks	5 minutes	Unknown	Relit at 5:40pm
2/18/2010	1:06 PM	PH	Boilers						Loss of ignition in BLR ??	12 minutes	54.3%	
2/18/2010	7:30 PM	PH	Boilers		x	x	x	x	Burning fuel oil on all boilers	12 minutes	57.4%	
2/18/2010	10:00 PM	PH	Boilers		x	x	x	x	Burning fuel oil on all boilers	30 minutes, intermittently	32.0%	
2/20/2010	2:24 PM	PH	Boilers				x		BLR4 shutdown	30 minutes	57.7%	
2/21/2010	7:24 PM	PH	Boilers		x				BLR2 feeders tripped off	18 minutes	52.5%	Per SOP, restarted boiler and feeders
2/24/2010	6:06 PM	PH	Boilers						Blowing soot	12 minutes, intermittently	32.2%	
2/25/2010	6:30 AM	PH	Boilers						Blowing soot	18 minutes	46.8%	
2/26/2010	2:00 AM	Acid	Incinerator			X			Tripped out Air froze going to it.	10 minutes	Unknown	Won't relight. Feeds off at 2:10am
2/26/2010	6:18 AM	PH	Boilers						Blowing soot	12 minutes	42.5%	
2/27/2010	8:24 AM	PH	Boilers						Blowing soot	18 minutes	39.3%	
2/28/2010	6:24 AM	PH	Boilers						Blowing soot	18 minutes, intermittently	27.4%	
3/1/2010	6:12 AM	PH	Boilers						Blowing soot	18 minutes, intermittently	31.8%	
3/1/2010	6:30 PM	PH	Boilers						Blowing soot	12 minutes	35.3%	
3/1/2010	8:42 PM	PH	Boilers						Blowing soot	12 minutes	23.3%	
3/2/2010	6:24 AM	PH	Boilers						Blowing soot	12 minutes	26.4%	
3/4/2010	7:00 PM	PH	Boilers						Blowing soot	30 minutes	46.5%	
3/5/2010	6:30 AM	PH	Boilers						Blowing soot	18 minutes	34.8%	

Plant-wide Summary of Deviations												
				Unit								
Date	Start Time	Area	Equipment	#1	#2	#3	#4	#5	Description of Deviation and Root Cause	Duration	Magnitude of Emissions or Opacity, If Known	Immediate Response and Corrective Action
3/5/2010	6:12 PM	PH	Boilers						Blowing soot	30 minutes	41.2%	
3/6/2010	6:18 AM	PH	Boilers						Blowing soot	18 minutes	42.9%	
3/7/2010	6:12 PM	PH	Boilers						Blowing soot	24 minutes	44.6%	
3/8/2010	6:36 PM	PH	Boilers						Blowing soot	12 minutes	44.1%	
3/9/2010	6:18 PM	PH	Boilers						Blowing soot	12 minutes	39.1%	
3/10/2010	6:06 PM	PH	Boilers						Blowing soot	18 minutes	37.6%	
3/14/2010	6:48 PM	PH	Boilers						Blowing soot	12 minutes	25.1%	
3/15/2010	6:12 PM	PH	Boilers						Blowing soot	12 minutes, intermittently	29.7%	
3/16/2010	6:12 PM	PH	Boilers						Coal feeder failre in BLR ??	18 minutes	25.0%	
3/17/2010	3:30 AM	PH	Boilers			x			2A Mill coal feeder pipe stopped up so burned oil on BLR3 during cleaning	12 minutes	23.6%	
3/17/2010	6:06 PM	PH	Boilers						Blowing soot	24 minutes	40.7%	
3/19/2010	12:06 AM	PH	Boilers					x	Startup BLR 5	30 minutes, intermittently	46.0%	
3/19/2010	4:36 AM	PH	Boilers					x	Startup BLR 5	18 minutes	27.3%	
3/19/2010	6:12 AM	PH	Boilers						Blowing soot	12 minutes	42.0%	
3/19/2010	6:18 PM	PH	Boilers						Blowing soot	12 minutes	42.5%	
3/20/2010	6:06 AM	PH	Boilers						Blowing soot	12 minutes	30.5%	
3/21/2010	6:12 AM	PH	Boilers						Blowing soot	12 minutes	43.6%	
3/22/2010	6:06 AM	PH	Boilers						Blowing soot	18 minutes	24.7%	
3/23/2010	8:18 AM	PH	Boilers		x				BLR2 east lower burner caught on fire	36 minutes, intermittently	80.0%	
3/27/2010	6:12 PM	PH	Boilers						Blowing soot	12 minutes	37.4%	Followed SOP
3/29/2010	5:50 AM	Acid	Incinerator			X			Tripped out.	13 minutes	Unknown	Relit at 6:03..
3/31/2010	6:24 AM	PH	Boilers						Blowing soot	18 minutes	27.4%	Followed SOP
4/1/2010	7:27 PM	Acid	Incinerator		X				Tripped out. NAC vacuum.	18 minutes	Unknown	Feeds off at 7:45pm
4/1/2010	6:24 AM	PH	Boilers						Blowing soot	18 minutes	31.4%	Followed SOP
4/2/2010	7:45 AM	NC	SCR						Scheduled shutdown of SCR for project work	25hr 30 min	no production	Shutdown fired heater, switch to piccolo
4/2/2010	12:00 PM	NC	Piccolo Fan						Piccolo fan breaker flipped, cause unknown	2hr	Unknown	Obtain operations support, locate and reset breaker
4/5/2010	7:30 PM	PH	Boilers		x	x			BLR2 & BLR 3 power loss due to electrical transients.	12 minutes	30.9%	Per SOP, restarted boilers
4/6/2010	11:10 AM	Acid	Incinerator			X			Tripped out Starting up	15 minutes	Unknown	Feeds off at 11:25am Called Inst. Person
4/6/2010	1:00 PM	Acid	Incinerator			X			Tripped out Starting up	8 minutes	unknown	Relit at 1:08pm
4/7/2010	8:24 AM	PH	Boilers						Blowing soot	12 minutes	30.0%	Followed SOP
4/8/2010	7:36 PM	PH	Boilers		x	x			BLR2 & BLR 3 power loss due to electrical transients.	12 minutes	31.3%	Per SOP, restarted boilers
4/10/2010	6:06 AM	PH	Boilers						Blowing soot	12 minutes, intermittently	33.5%	Followed SOP
4/10/2010	2:24 PM	PH	Boilers						BLR 5 startup & BLR 3 shutdown	18 minutes, intermittently	33.1%	Followed SOP
4/10/2010	6:24 PM	PH	Boilers						Blowing soot	12 minutes	33.1%	Followed SOP
4/11/2010	6:06 AM	PH	Boilers						Blowing soot	12 minutes	33.4%	Followed SOP
4/12/2010	3:36 AM	PH	Boilers		x			x	2A pulverizer loss of current required burning on fuel oil while mill 5B started up	12 minutes	26.9%	Per SOP, started up 5B mill
4/14/2010	12:54 AM	PH	Boilers		x				BLR2 ESP 2B cabinet failure	12 minutes	24.7%	replaced cabinet
4/16/2010	6:18 PM	PH	Boilers						Blowing soot	18 minutes	41.1%	Followed SOP
4/17/2010	6:18 AM	PH	Boilers						Blowing soot	12 minutes	23.8%	Followed SOP
4/18/2010	6:06 AM	PH	Boilers						Blowing soot	18 minutes	34.9%	Followed SOP
4/18/2010	6:12 PM	PH	Boilers						Blowing soot	12 minutes, intermittently	44.6%	Followed SOP

Plant-wide Summary of Deviations

Date	Start Time	Area	Equipment	Unit #1	#2	#3	#4	#5	Description of Deviation and Root Cause	Duration	Magnitude of Emissions or Opacity, if Known	Immediate Response and Corrective Action
4/19/2010	6:24 AM	PH	Boilers						Blowing soot	12 minutes	28.7%	Followed SOP
4/19/2010	9:12 AM	PH	Boilers			x			BLR3 ESP wouldn't energize during annual boiler cleaning	18 minutes	39.5%	ESP 3B cabinet had been removed to replaced failed ESP 2B cabinet
4/19/2010	10:36 AM	PH	Boilers		x			x	shutdown BLR2B mill and startup BLR 5B mill	36 minutes	31.6%	Followed SOP
4/19/2010	8:12 PM	PH	Boilers		x				BLR2 cleaning	12 minutes, intermittently	22.6%	Followed SOP
4/20/2010	6:12 AM	PH	Boilers						Blowing soot	12 minutes	28.4%	Followed SOP
4/20/2010	4:24 PM	PH	Boilers		x				Cleaning No 2 boiler	12 minutes, intermittently	20.8%	
4/20/2010	9:00 PM	PH	Boilers		x		x	x	Soot-blowing	24 minutes	35.9%	
4/21/2010	6:12 AM	PH	Boilers						Decrease in steam load was forcing operators to cut off feeders temporarily to keep steam pressure down. Adjustment was made to east 400/275 PRV station the further decreased steam load until TG 3 load could be raised.	18 minutes	41.5%	
4/21/2010	6:12 PM	PH	Boilers		x		x	x	Soot-blowing	36 minutes, intermittently	28.9%	
4/21/2010	10:00 PM	PH	Boilers						Starting up No 1 T/G for a trial run adjusting 40,275 # stations	36 minutes, intermittently	24.1%	
4/22/2010	6:30 AM	PH	Boilers		x		x	x	Soot-blowing	12 minutes	48.6%	
4/22/2010	6:12 PM	PH	Boilers		x		x	x	Soot-blowing	24 minutes	66.6%	
4/22/2010	8:12 PM	PH	Boilers		x		x	x	Low precipitator readings on boilers #2 #4 #5	24 minutes, intermittently	21.4%	Adjusted load between boilers per SOP
4/23/2010	6:12 AM	PH	Boilers		x		x	x	Soot-blowing	18 minutes	26.6%	
4/23/2010	6:12 PM	PH	Boilers		x		x	x	Soot-blowing	12 minutes	27.6%	
4/26/2010	6:18 PM	PH	Boilers		x		x	x	Soot-blowing	12 minutes	26.7%	
4/27/2010	2:12 PM	PH	Boilers			x			Start up of Boiler # 3	12 minutes	23.7%	
4/28/2010	6:12 AM	PH	Boilers		x		x	x	Soot-blowing	12 minutes	20.5%	
4/28/2010	8:36 AM	PH	Boilers			x			Started up Boiler 3 ID and FD Fans for maintenance cleaning	66 minutes,. intermittently	51.3%	
4/28/2010	9:00 PM	PH	Boilers						Used oil guns to support system pressure during high steam demand	12 minutes, intermittently	22.0%	
4/29/2010	6:18 AM	PH	Boilers		x		x	x	Soot-blowing	12 minutes	34.0%	
4/29/2010	9:30 AM	PH	Boilers		x				Shutdown of Boiler #2	12 minutes	64.3%	
4/29/2010	9:30 PM	PH	Boilers				x	x	Soot-blowing	12 minutes	33.1%	
4/30/2010	6:12 AM	PH	Boilers				x	x	Soot-blowing	12 minutes	32.7%	
4/30/2010	9:12 PM	PH	Boilers				x	x	Soot-blowing	12 minutes	48.8%	
5/1/2010	6:18 AM	PH	Boilers				x	x	Soot-blowing	12 minutes	24.3%	
5/1/2010	9:06 PM	PH	Boilers				x	x	Soot-blowing	12 minutes	23.9%	
5/2/2010	9:18 PM	PH	Boilers				x	x	Soot-blowing	18 minutes, intermittently	29.6%	
5/3/2010	6:24 AM	PH	Boilers		x				Start up of Boiler # 2 due to increase in plant steam load	18 minutes, intermittently	42.6%	
5/5/2010	6:18 AM	PH	Boilers						Soot-blowing	12 minutes	31.5%	
5/6/2010	9:06 AM	PH	Boilers						Start up of Boiler # 3 ID and FD Fans for boiler maintenance	12 minutes	26.5%	
5/9/2010	6:18 AM	PH	Boilers						Soot-blowing	12 minutes	25.7%	
5/9/2010	11:32 AM	Acid	Incinerator		X				#2 Incinerator tripped no nac vaccum	3 minutes	Unknown	Wouldn't relight Feeds of T-2 at 11:35pm
5/10/2010	6:06	PH	Boilers						Soot-blowing	18 minutes	30.8%	
5/10/2010	21:06	PH	Boilers						Soot-blowing	24 minutes	39.0%	
5/17/2010	6:06	PH	Boilers						Soot-blowing	12 minutes	36.8%	

Plant-wide Summary of Deviations												
				Unit								
Date	Start Time	Area	Equipment	#1	#2	#3	#4	#5	Description of Deviation and Root Cause	Duration	Magnitude of Emissions or Opacity, if Known	Immediate Response and Corrective Action
5/18/2010	6:06	PH	Boilers						Soot-blowing	18 minutes	34.6%	
5/19/2010	6:18	PH	Boilers						Soot-blowing	18 minutes	43.8%	
5/19/2010	8:24	PH	Boilers						Shutdown of Boiler # 5 for ID Fan bearing repair.	30 minutes, intermittently	45.1%	Put 2B Mill on line and reduced steam flow to TG 1, per SOP
5/19/2010	19:48	PH	Boilers						Coal feeder pipe on #4A mill plugged	90 minutes, intermittently	85.6%	Contacted NC Area to reduce load. Two tubs taken off line. Cleaned 4A coal pipe with air lance.
5/20/2010	1:24	PH	Boilers						Steam load increase. Used fuel oil to restore system pressure.	24 minutes, intermittently	40.8%	Used fuel oil to restore system pressure.
5/20/2010	3:42	PH	Boilers						Lost draft on Boilers 2 and 4. Found ash build-up in tops of target wall tubes.	90 minutes, intermittently	76.9%	Called NC Area to reduce load. Cleaned tops of boilers per SOP.
5/20/2010	10:12	PH	Boilers						Steam line at 4th RP was damaged by vehicle accident. An 8 inch pipe tee was cracked along about ¼ of its circumference. Fuel oil was used to support boiler pressure until steam supply to broken pipe was shut off.	84 minutes, intermittently	86.7%	Shut off steam supply to location of broken pipe (4th RP feed)
5/20/2010	21:30	PH	Boilers						Start up of Boiler # 5	12 minutes	31.5%	Followed SOP
5/21/2010	11:12	PH	Boilers						Boiler 4 tripped. Instrument tech inadvertently turned off power to P/I transducers for ID/FD fans.	36 minutes	54.7%	Restored panel power and fan control.
5/24/2010	18:18	PH	Boilers						Soot-blowing	12 minutes	38.8%	Followed SOP
5/26/2010	18:06	PH	Boilers						Soot-blowing	12 minutes	26.3%	Followed SOP
6/2/2010	2:00	PH	Boilers						Firing Boiler 3 for hot standby service	12 minutes, intermittently	25.1%	Followed SOP
6/3/2010	6:24	PH	Boilers		x		x	x	Soot-blowing	12 minutes	28.1%	Followed SOP
6/11/2010	11:30	PH	Boilers			x			Opening doors to inspect wires on Boiler No. 3 precipitator caused high opacity	24 minutes, intermittently	25.6%	Followed SOP
6/12/2010	23:18	PH	Boilers		x			x	ID fan on No. 5 Boiler malfunctioned during its startup, which caused increase steam load from No. 2 Boiler	12 minutes	30.2%	Followed SOP
6/14/2010	12:00	PH	Boilers						Shutdown of Boiler # 5 I D fan Bearing and base plate loose	84 minutes, intermittently	54.2%	Followed SOP
6/15/2010	20:48	PH	Boilers		x	x		x	Had to put oil on due to sudden load increase causing spike in opacity while operating boilers #2, #3, and #5.	12 minutes, intermittently	24.0%	Followed SOP
6/16/2010	15:18	PH	Boilers				X		Boiler 4 Startup	12 minutes	65.3%	Followed SOP
6/26/2010	4:15	NC	Piccolo Scrubber						NC nitration fumes diverted to piccolo scrubber after unplanned electrical outage. Intermittent visible emissions were observed while the NC process was shutdown after the power outage.	Unknown, but most likely <60 consecutive minutes	Unknown	NC operating personnel minimized Nox emissions vented to the SCR during this period except when emptying process equipment while shutting it down after power resumed.
6/26/2010	4:42	PH	Boilers						Unplanned power outage	24 minutes, intermittently	35.1%	Followed SOP for boiler restart
6/26/2010	16:54	PH	Boilers						Boiler 4 feedwater regulator malfunction	12 minutes	64.1%	Followed SOP
6/26/2010	22:30	PH	Boilers			x	x		Start up of Boiler # 4 & 3 after unplanned shutdown	12 minutes	34.7%	Followed SOP
6/27/2010	6:54	PH	Boilers					X	Boiler 5 Startup	12 minutes	32.1%	Followed SOP

Plant-wide Summary of Deviations												
				Unit								
Date	Start Time	Area	Equipment	#1	#2	#3	#4	#5	Description of Deviation and Root Cause	Duration	Magnitude of Emissions or Opacity, if Known	Immediate Response and Corrective Action
6/29/2010	9:30	NC	SCR						Visible emissions cloud observed for more than 6 minutes from SCR exhaust. Outlet Nox analyzer was off-line during this period for routine maintenance so all recorded outlet Nox values were "normal" and not indicative of a visible cloud either before or after this observed visible emissions event.	Unknown, but <60 consecutive minutes	Unknown	Returned Nox analyzer to service as soon as maintenance was completed.
6/30/2010	9:00	Acid	Tank Farm						Visible emissions cloud observed for more than 6 minutes during PYRO acid transfer to Acid Tank Farm from pump due to vacuum breaker malfunction	Unknown, but <60 consecutive minutes	Unknown	Notified acid area & safety dept of incident. Spare parts to repair vacuum breaker reportedly were already on order.

Monroe, Mary (DEQ)

From: Twait, Greg [Greg.Twait@ATK.COM]
Sent: Wednesday, August 25, 2010 5:49 PM
To: Monroe, Mary (DEQ)
Subject: RE: TV Semi-annual Monitoring Report

RFAAP retains records of 1-minute averages and of 1-hr rolling averages for all of its OPLs. For only the OPLs listed in the 1H2010 Title V deviation report, I am not able to calculate the exact same 1-hr rolling average based upon the 60 most recent 1-minute average records for that OPL like I can for the other OPLs. The 1-hr rolling average in the RFAAP records is almost the same as the average of the 60 one-minute averages but is not exactly the same value. This likely has been a problem since the HWC MACT took effect and is ongoing. RFAAP Systems Engineers have reviewed the control systems logic but have not yet identified what the problem is. I suspect that either the 1-hr rolling average or that the 1-minute averages are perhaps being calculated incorrectly. The recorded 1-hr rolling averages The regulatory citation for how 1-minute averages records are to be generated is 40 CFR § 63.1209(b)(3). The regulatory citation for how rolling average records are to be calculated is 40 CFR § 63.1209(b)(5).

Section 63.1206(c)(3)(vii) of the HWC MACT states the following:

The AWFCO system and associated alarms must be tested at least weekly to verify operability, unless you document in the operating record that weekly inspections will unduly restrict or upset operations and that less frequent inspection will be adequate. At a minimum, you must conduct operability testing at least monthly. You must document and record in the operating record AWFCO operability test procedures and results.

The RFAAP AWFCO stated that "monthly testing is preferred, as weekly testing would unduly interfere with operations and cause excessive downtime." Although this statement meets the regulatory requirements, I could not independently concur that weekly testing would unduly interfere with operations and cause excessive incinerator downtime. I updated the RFAAP AWFCO plan during 1H2010. Until June 2010, only waste slurry feed rate, solids feed rate, kiln and afterburner temperatures, CO concentration, and stack velocity AWFCO trips were tested weekly. Based on my records review, all of the AWFCOs based upon OPLs based on the NOC in effect at that time were tested at least once each calendar month, except for 720-minute rolling averages for mercury, SVM, LVM, ash, and chlorides. The AWFCO based on the slurry feed OPL was tested weekly, and these OPLs were all based on the slurry feed (as well as the concentration of these various feed constituents that the incinerator operators manually enter from the waste propellant grinder program.) As of June 2010, all OPLs identified in the April 2010 NOC are tested weekly. Some AWFCO trips are tested monthly, but these are AWFCO trips that are not based on OPLs listed in the NOC.

Greg Twait

ATK Environmental Engineer
540-639-8716
greg.twait@atk.com

From: Monroe, Mary (DEQ) [mailto:Mary.Monroe@deq.virginia.gov]
Sent: Wednesday, August 25, 2010 3:07 PM
To: Twait, Greg
Subject: TV Semi-annual Monitoring Report

Hi Greg,

I have a couple of questions regarding deviations listed in the TV SAMR. The questions pertain to Condition IX.C. The report states: "1-hr rolling averages of these OPLs are not the average of the previously recorded sixty 1-min average records for these OPLs: Kiln exit temperature,

afterburner exit temperature..." Can you explain how the one hour rolling averages have been calculated? What is the duration of the missed/incorrect averages?

Also the report states, "Site procedures did not document why some AWFCO checks are conducted monthly vs. weekly and why some 12-hr rolling average AWFCO activations were not routinely tested." Which AWFCO activations were not routinely tested?

Please provide a response by Monday, August 30th. Thank you for your assistance.

Mary S. Monroe

Air Compliance Engineer

Department of Environmental Quality

Blue Ridge Regional Office - Roanoke

(540) 562-6850 (Phone)

(540) 562-6725 (Fax)

E Mail: mary.monroe@deq.virginia.gov

Monroe, Mary (DEQ)

From: Twait, Greg [Greg.Twait@ATK.COM]
Sent: Thursday, August 26, 2010 11:50 AM
To: Monroe, Mary (DEQ)
Subject: RE: TV Semi-annual Monitoring Report
Attachments: OPL Date for Mary Monroe.xlsx

In follow-up to our phone conversation today, I have attached a summary of the QA/QC I completed on the 1-hr rolling average values for various OPLs. Row 62 includes the 1st calculated value of 1-hr rolling averages (based on the 60 one-min. averages for that OPL.) "Calculated" 1-hr rolling average stack velocity differs the most, but during this period never more than 0.25% from the "recorded" 1-hr rolling average stack velocity. I had incorrectly reported in the 1st half TV deviation report that 1-hr rolling ave. BH inlet temp. had this issue. While looking at this data today, I think that I incorrectly reported BH inlet temp. rather than Scrubber diff. pressure as one of the 6 OPLs with this issue in the 1-hr recorded rolling averages. Don't hesitate to call me if you have questions while reviewing the attachment, as the data labels may be confusing.

Greg Twait

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greg.twait@atk.com

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averages for mercury, SVM, LVM, ash, and chlorides. The AWFCO based on the slurry feed OPL was tested weekly, and these OPLs were all based on the slurry feed (as well as the concentration of these various feed constituents that the incinerator operators manually enter from the waste propellant grinder program.) As of June 2010, all OPLs identified in the April 2010 NOC are tested weekly. Some AWFCO trips are tested monthly, but these are AWFCO trips that are not based on OPLs listed in the NOC.

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Mary S. Monroe

Air Compliance Engineer

Department of Environmental Quality

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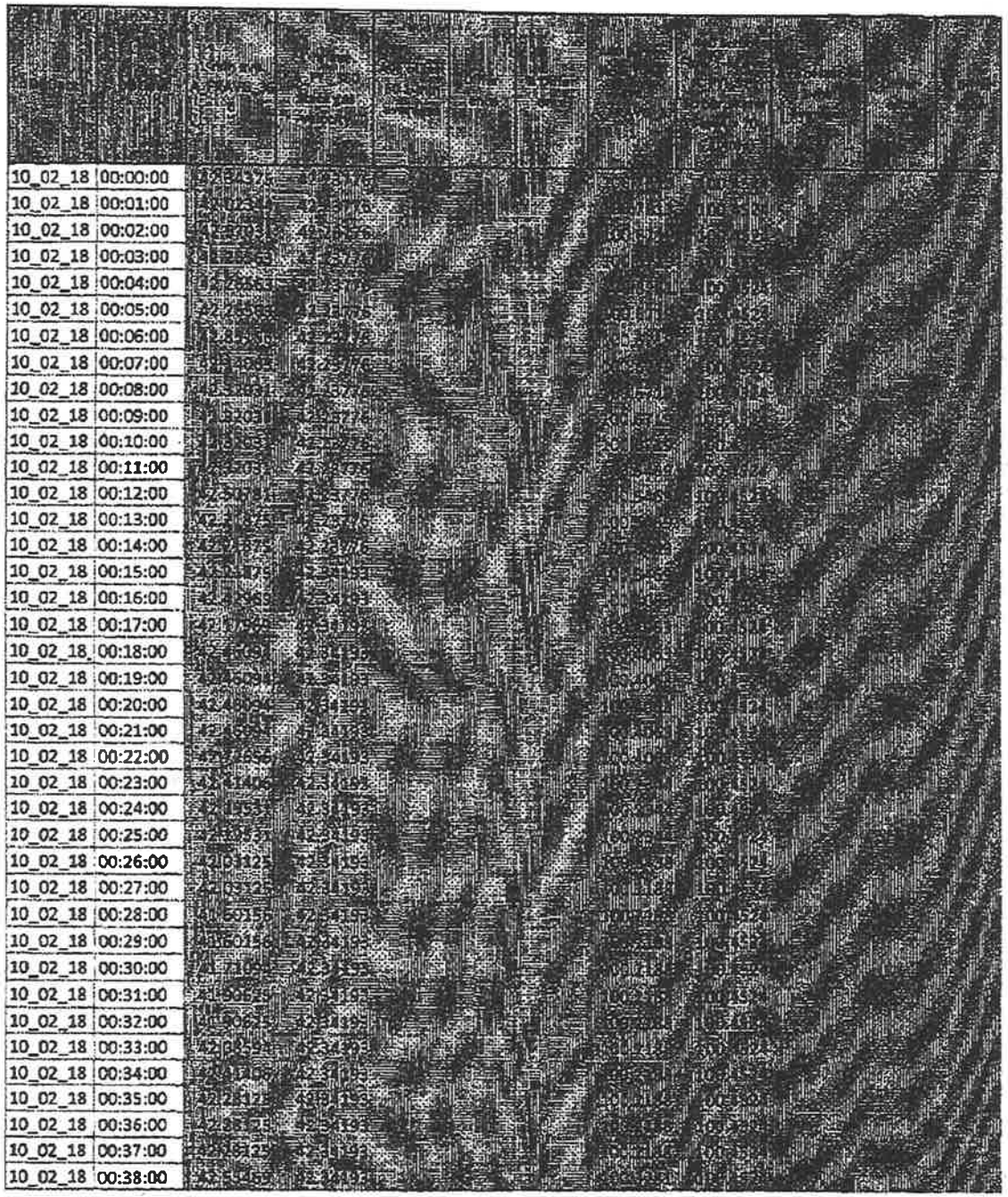

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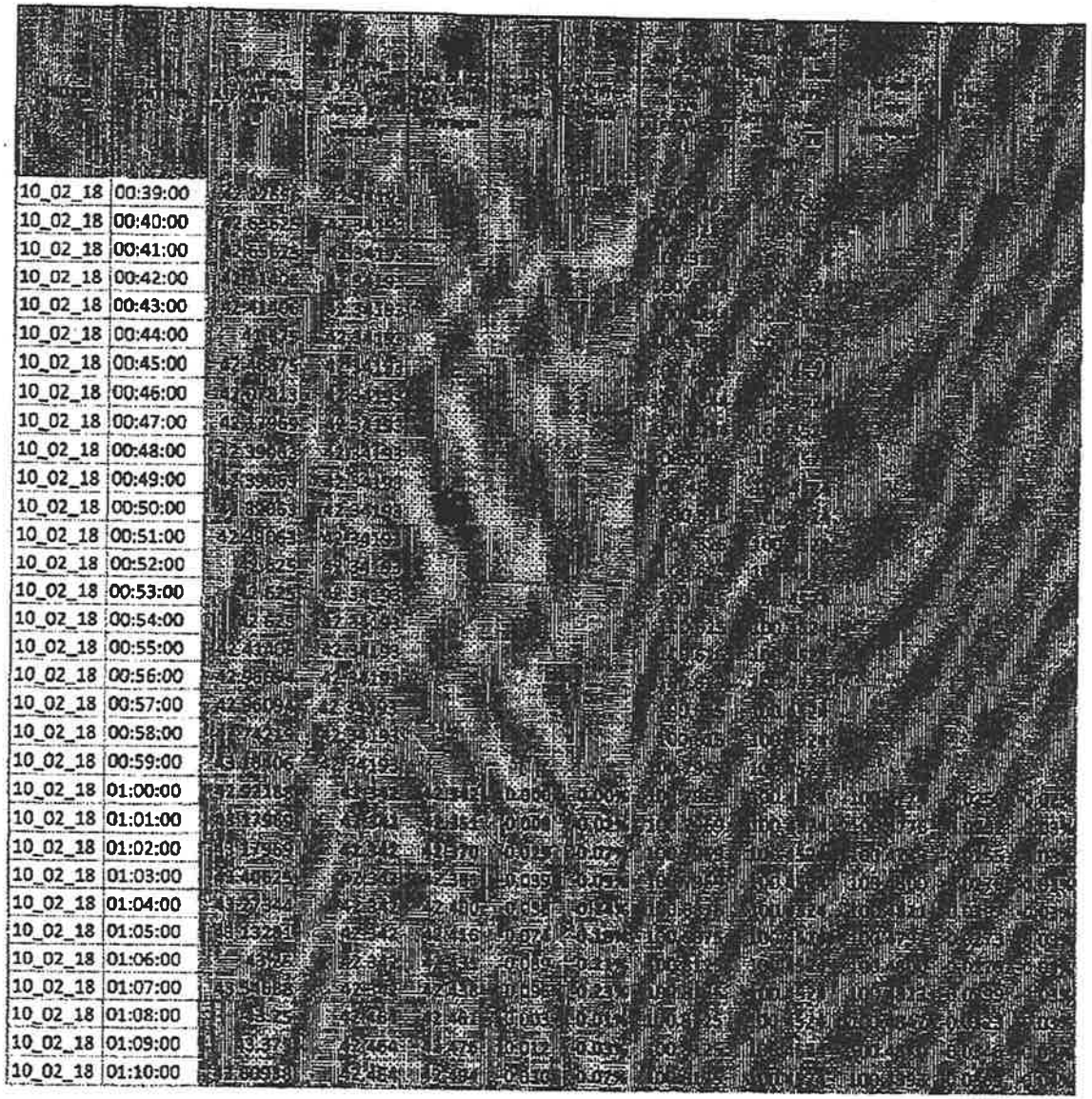

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[illegible]	[illegible]	440 Kiln Exit Temp 1-min ave ALTRAVG|475	440 Kiln Exit Temp 1-hr ave A_TYL_475	Ave of last 60 1-min averages	Differ-ence	% Differ-ence
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10_02_18	00:02:00	1375.229	1374.865			
10_02_18	00:03:00	1375.229	1374.865			
10_02_18	00:04:00	1375.229	1374.865			
10_02_18	00:05:00	1375.229	1374.865			
10_02_18	00:06:00	1375.229	1374.865			
10_02_18	00:07:00	1375.229	1374.865			
10_02_18	00:08:00	1375.229	1374.865			
10_02_18	00:09:00	1376.521	1374.865			
10_02_18	00:10:00	1376.521	1374.865			
10_02_18	00:11:00	1376.521	1374.865			
10_02_18	00:12:00	1376.521	1374.865			
10_02_18	00:13:00	1376.521	1374.865			
10_02_18	00:14:00	1376.521	1374.865			
10_02_18	00:15:00	1376.521	1374.865			
10_02_18	00:16:00	1374.26	1374.865			
10_02_18	00:17:00	1374.26	1374.865			
10_02_18	00:18:00	1372.553	1374.865			
10_02_18	00:19:00	1372.553	1374.865			
10_02_18	00:20:00	1371.492	1374.865			
10_02_18	00:21:00	1371.492	1374.865			
10_02_18	00:22:00	1371.492	1374.865			
10_02_18	00:23:00	1371.492	1374.865			
10_02_18	00:24:00	1372.691	1374.865			
10_02_18	00:25:00	1372.691	1374.865			
10_02_18	00:26:00	1372.691	1374.865			
10_02_18	00:27:00	1372.691	1374.865			
10_02_18	00:28:00	1372.891	1374.865			
10_02_18	00:29:00	1372.691	1374.865			
10_02_18	00:30:00	1373.891	1374.865			
10_02_18	00:31:00	1373.891	1374.865			
10_02_18	00:32:00	1373.891	1374.865			
10_02_18	00:33:00	1373.891	1374.865			
10_02_18	00:34:00	1373.891	1374.865			
10_02_18	00:35:00	1373.891	1374.865			
10_02_18	00:36:00	1373.891	1374.865			
10_02_18	00:37:00	1373.891	1374.865			
10_02_18	00:38:00	1373.891	1374.865			
10_02_18	00:39:00	1373.891	1374.865			

[illegible]	[illegible]	440 Kiln Exit Temp 1-min ave A_TRAVG_475	440 Kiln Exit Temp 1-hr @ ave A_TYI_475	Ave of last 60 1-min averages	Difference	% Difference
10_02_18	00:40:00	1373.891	1374.865			
10_02_18	00:41:00	1373.891	1374.865			
10_02_18	00:42:00	1373.891	1374.865			
10_02_18	00:43:00	1373.891	1374.865			
10_02_18	00:44:00	1373.891	1374.865			
10_02_18	00:45:00	1378.874	1374.865			
10_02_18	00:46:00	1386.118	1374.865			
10_02_18	00:47:00	1390.271	1374.865			
10_02_18	00:48:00	1399.96	1374.865			
10_02_18	00:49:00	1405.543	1374.865			
10_02_18	00:50:00	1412.326	1374.865			
10_02_18	00:51:00	1422.708	1376.271			
10_02_18	00:52:00	1429.398	1376.271			
10_02_18	00:53:00	1432.305	1377.992			
10_02_18	00:54:00	1424.553	1377.992			
10_02_18	00:55:00	1412.649	1379.821			
10_02_18	00:56:00	1404.39	1379.821			
10_02_18	00:57:00	1397.93	1380.953			
10_02_18	00:58:00	1392.993	1380.953			
10_02_18	00:59:00	1388.887	1380.953			
10_02_18	01:00:00	1385.703	1380.953	1381.929	0.976	-0.07%
10_02_18	01:01:00	1382.842	1382.016	1382.103	-0.087	-0.01%
10_02_18	01:02:00	1379.705	1382.016	1382.230	-0.214	-0.02%
10_02_18	01:03:00	1376.475	1382.016	1382.305	-0.289	-0.02%
10_02_18	01:04:00	1373.337	1382.016	1382.325	-0.309	-0.02%
10_02_18	01:05:00	1370.707	1382.016	1382.294	-0.278	-0.02%
10_02_18	01:06:00	1368.585	1382.016	1382.219	-0.203	-0.01%
10_02_18	01:07:00	1366.647	1382.016	1382.108	-0.092	-0.01%
10_02_18	01:08:00	1365.217	1382.016	1381.965	0.051	0.00%
10_02_18	01:09:00	1365.217	1382.016	1381.798	0.218	0.02%
10_02_18	01:10:00	1364.202	1382.016	1381.610	0.405	0.03%

		440 AB Exit Temp 1-min ave. A_TRAVG_476	440 AB Exit Temp 1-hr ave. ASTM-476	Calc TYF-476 (Ave TRAVG last 60)	Difference	% Difference
10_02_18	00:00:00	1650.643	1649.856			
10_02_18	00:01:00	1650.643	1649.856			
10_02_18	00:02:00	1649.581	1649.856			
10_02_18	00:03:00	1649.581	1649.856			
10_02_18	00:04:00	1649.581	1649.856			
10_02_18	00:05:00	1649.581	1649.856			
10_02_18	00:06:00	1649.581	1649.856			
10_02_18	00:07:00	1651.012	1649.856			
10_02_18	00:08:00	1651.012	1649.856			
10_02_18	00:09:00	1651.012	1649.856			
10_02_18	00:10:00	1651.012	1649.856			
10_02_18	00:11:00	1651.012	1649.856			
10_02_18	00:12:00	1651.012	1649.856			
10_02_18	00:13:00	1651.012	1649.856			
10_02_18	00:14:00	1651.012	1649.856			
10_02_18	00:15:00	1648.382	1649.856			
10_02_18	00:16:00	1647.09	1649.856			
10_02_18	00:17:00	1645.798	1649.856			
10_02_18	00:18:00	1645.798	1649.856			
10_02_18	00:19:00	1644.413	1649.856			
10_02_18	00:20:00	1644.413	1649.856			
10_02_18	00:21:00	1645.705	1649.856			
10_02_18	00:22:00	1645.705	1649.856			
10_02_18	00:23:00	1647.689	1649.856			
10_02_18	00:24:00	1647.689	1649.856			
10_02_18	00:25:00	1648.981	1649.856			
10_02_18	00:26:00	1650.089	1649.856			
10_02_18	00:27:00	1650.089	1649.856			
10_02_18	00:28:00	1650.089	1649.856			
10_02_18	00:29:00	1650.089	1649.856			
10_02_18	00:30:00	1650.089	1649.856			
10_02_18	00:31:00	1650.089	1649.856			
10_02_18	00:32:00	1650.089	1649.856			
10_02_18	00:33:00	1650.089	1649.856			
10_02_18	00:34:00	1650.089	1649.856			
10_02_18	00:35:00	1650.089	1649.856			
10_02_18	00:36:00	1650.089	1649.856			
10_02_18	00:37:00	1650.089	1649.856			
10_02_18	00:38:00	1650.089	1649.856			

		440 AB Extr Temp 1 min Ave A_TRAVG_476	440 AB Extr Temp 1 hr Ave A_TI_475	Calc TYI 476 (Ave TRAVG last 60)	Differ-ence	% Differ-ence
10_02_18	00:39:00	1650.089	1649.856			
10_02_18	00:40:00	1650.089	1649.856			
10_02_18	00:41:00	1650.089	1649.856			
10_02_18	00:42:00	1648.843	1649.856			
10_02_18	00:43:00	1648.843	1649.856			
10_02_18	00:44:00	1653.365	1649.856			
10_02_18	00:45:00	1650.932	1649.856			
10_02_18	00:46:00	1663.516	1649.856			
10_02_18	00:47:00	1668.868	1649.856			
10_02_18	00:48:00	1673.621	1649.856			
10_02_18	00:49:00	1675.328	1649.856			
10_02_18	00:50:00	1679.619	1651.076			
10_02_18	00:51:00	1680.726	1651.076			
10_02_18	00:52:00	1677.219	1652.137			
10_02_18	00:53:00	1667.345	1652.137			
10_02_18	00:54:00	1650.55	1652.137			
10_02_18	00:55:00	1638.323	1652.137			
10_02_18	00:56:00	1631.31	1652.137			
10_02_18	00:57:00	1627.48	1652.137			
10_02_18	00:58:00	1626.419	1652.137			
10_02_18	00:59:00	1626.419	1652.137	1651.152		
10_02_18	01:00:00	1626.419	1652.137	1650.748	-1.389	-0.08%
10_02_18	01:01:00	1627.849	1650.799	1650.368	-0.431	-0.03%
10_02_18	01:02:00	1627.849	1650.799	1650.006	-0.793	-0.05%
10_02_18	01:03:00	1627.849	1650.799	1649.644	-1.155	-0.07%
10_02_18	01:04:00	1629.049	1649.718	1649.301	-0.417	-0.03%
10_02_18	01:05:00	1630.802	1649.718	1648.988	-0.730	-0.04%
10_02_18	01:06:00	1632.74	1649.718	1648.708	-1.010	-0.06%
10_02_18	01:07:00	1634.632	1649.718	1648.435	-1.283	-0.08%
10_02_18	01:08:00	1637.123	1648.488	1648.203	-0.285	-0.02%
10_02_18	01:09:00	1639.615	1648.488	1648.013	-0.475	-0.03%
10_02_18	01:10:00	1641.737	1648.488	1647.859	-0.629	-0.04%

		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
10_02_18	00:00:00	1650.843	1649.856			
10_02_18	00:01:00	1650.643	1649.856			
10_02_18	00:02:00	1649.581	1649.856			
10_02_18	00:03:00	1649.581	1649.856			
10_02_18	00:04:00	1649.581	1649.856			
10_02_18	00:05:00	1649.581	1649.856			
10_02_18	00:06:00	1649.581	1649.856			
10_02_18	00:07:00	1651.012	1649.856			
10_02_18	00:08:00	1651.012	1649.856			
10_02_18	00:09:00	1651.012	1649.856			
10_02_18	00:10:00	1651.012	1649.856			
10_02_18	00:11:00	1651.012	1649.856			
10_02_18	00:12:00	1651.012	1649.856			
10_02_18	00:13:00	1651.012	1649.856			
10_02_18	00:14:00	1651.012	1649.856			
10_02_18	00:15:00	1648.382	1649.856			
10_02_18	00:16:00	1647.09	1649.856			
10_02_18	00:17:00	1645.798	1649.856			
10_02_18	00:18:00	1645.798	1649.856			
10_02_18	00:19:00	1644.413	1649.856			
10_02_18	00:20:00	1644.413	1649.856			
10_02_18	00:21:00	1645.705	1649.856			
10_02_18	00:22:00	1645.705	1649.856			
10_02_18	00:23:00	1647.649	1649.856			
10_02_18	00:24:00	1647.649	1649.856			
10_02_18	00:25:00	1648.981	1649.856			
10_02_18	00:26:00	1650.089	1649.856			
10_02_18	00:27:00	1650.089	1649.856			
10_02_18	00:28:00	1650.089	1649.856			
10_02_18	00:29:00	1650.089	1649.856			
10_02_18	00:30:00	1650.089	1649.856			
10_02_18	00:31:00	1650.089	1649.856			
10_02_18	00:32:00	1650.089	1649.856			
10_02_18	00:33:00	1650.089	1649.856			
10_02_18	00:34:00	1650.089	1649.856			
10_02_18	00:35:00	1650.089	1649.856			
10_02_18	00:36:00	1650.089	1649.856			
10_02_18	00:37:00	1650.089	1649.856			
10_02_18	00:38:00	1650.089	1649.856			

[illegible]	[illegible]	440 AB Exit Temp 1-hr Ave, A_TRAVG_476	440 AB Exit Temp 1-hr Ave, A_TVI_475	Calc TVI_476 (Ave TRAVG last 60)	Differences	% Differences
10_02_18	00:39:00	1650.089	1649.856			
10_02_18	00:40:00	1650.089	1649.856			
10_02_18	00:41:00	1650.089	1649.856			
10_02_18	00:42:00	1648.843	1649.856			
10_02_18	00:43:00	1648.843	1649.856			
10_02_18	00:44:00	1653.365	1649.856			
10_02_18	00:45:00	1660.932	1649.856			
10_02_18	00:46:00	1663.516	1649.856			
10_02_18	00:47:00	1668.868	1649.856			
10_02_18	00:48:00	1673.621	1649.856			
10_02_18	00:49:00	1675.328	1649.856			
10_02_18	00:50:00	1679.619	1651.076			
10_02_18	00:51:00	1680.726	1651.076			
10_02_18	00:52:00	1677.219	1652.137			
10_02_18	00:53:00	1667.345	1652.137			
10_02_18	00:54:00	1650.55	1652.137			
10_02_18	00:55:00	1638.323	1652.137			
10_02_18	00:56:00	1631.31	1652.137			
10_02_18	00:57:00	1627.48	1652.137			
10_02_18	00:58:00	1626.419	1652.137			
10_02_18	00:59:00	1626.419	1652.137	1651.152		
10_02_18	01:00:00	1626.419	1652.137	1650.748	-1.389	-0.08%
10_02_18	01:01:00	1627.849	1650.799	1650.368	-0.431	-0.03%
10_02_18	01:02:00	1627.849	1650.799	1650.006	-0.793	-0.05%
10_02_18	01:03:00	1627.849	1650.799	1649.644	-1.155	-0.07%
10_02_18	01:04:00	1629.049	1649.718	1649.301	-0.417	-0.03%
10_02_18	01:05:00	1630.802	1649.718	1648.988	-0.730	-0.04%
10_02_18	01:06:00	1632.74	1649.718	1648.708	-1.010	-0.06%
10_02_18	01:07:00	1634.632	1649.718	1648.435	-1.283	-0.08%
10_02_18	01:08:00	1637.123	1648.488	1648.203	-0.285	-0.02%
10_02_18	01:09:00	1639.615	1648.488	1648.013	-0.475	-0.03%
10_02_18	01:10:00	1641.737	1648.488	1647.859	-0.629	-0.04%

[illegible]	[illegible]	BH Inlet Temp [illegible] avg A-TRAVG-1 02	BH Inlet Temp 3 [illegible] ave A-TYI-302	Avg of last 60 1-min averages	Difference	% Difference
10_02_18	00:00:00	350.5664	349.9698			
10_02_18	00:01:00	350.3477	349.9995			
10_02_18	00:02:00	349.1445	350.0277			
10_02_18	00:03:00	350.1836	350.0063			
10_02_18	00:04:00	350.7852	349.983			
10_02_18	00:05:00	351.6602	349.9612			
10_02_18	00:06:00	351.1953	349.9689			
10_02_18	00:07:00	351.168	349.9926			
10_02_18	00:08:00	350.1836	350.0486			
10_02_18	00:09:00	348.4883	350.0838			
10_02_18	00:10:00	349.4453	350.0737			
10_02_18	00:11:00	349.1719	350.0733			
10_02_18	00:12:00	349.3633	350.0565			
10_02_18	00:13:00	349.2813	350.0282			
10_02_18	00:14:00	348.9531	350.0068			
10_02_18	00:15:00	349.8828	349.9753			
10_02_18	00:16:00	349.3906	349.9584			
10_02_18	00:17:00	349.6641	349.9398			
10_02_18	00:18:00	350.1289	349.9425			
10_02_18	00:19:00	349.1445	349.9684			
10_02_18	00:20:00	350.457	349.9803			
10_02_18	00:21:00	350.6484	350.0049			
10_02_18	00:22:00	351.8789	350.0095			
10_02_18	00:23:00	351.5234	350.0282			
10_02_18	00:24:00	350.3477	350.0628			
10_02_18	00:25:00	350.4844	350.045			
10_02_18	00:26:00	350.1563	350.0491			
10_02_18	00:27:00	348.7627	350.0482			
10_02_18	00:28:00	348.707	350.0255			
10_02_18	00:29:00	349.9375	350.0077			
10_02_18	00:30:00	350.7852	350.004			
10_02_18	00:31:00	351.1953	350.0148			
10_02_18	00:32:00	350.8125	350.0345			
10_02_18	00:33:00	351.4688	350.056			
10_02_18	00:34:00	349.6094	350.0778			
10_02_18	00:35:00	348.4609	350.0683			
10_02_18	00:36:00	348.9258	350.0505			
10_02_18	00:37:00	348.7891	350.0314			
10_02_18	00:38:00	349.2813	350.02			

[illegible]	[illegible]	BH Inlet Temp 1-min ave. A_TRAVG_3 02	BH Inlet Temp 1-hr ave. A_TYI_302	Ave of last 60 1-min averages	Differ-ence	% Differ-ence
10_02_18	00:39:00	350.375	350.0054	[illegible]	[illegible]	[illegible]
10_02_18	00:40:00	350.8945	350.0068	[illegible]	[illegible]	[illegible]
10_02_18	00:41:00	349.5547	350.0131	[illegible]	[illegible]	[illegible]
10_02_18	00:42:00	350.2383	349.9995	[illegible]	[illegible]	[illegible]
10_02_18	00:43:00	349.3633	350.0104	[illegible]	[illegible]	[illegible]
10_02_18	00:44:00	352.3711	349.994	[illegible]	[illegible]	[illegible]
10_02_18	00:45:00	353.6289	350.0382	[illegible]	[illegible]	[illegible]
10_02_18	00:46:00	350.4023	350.1066	[illegible]	[illegible]	[illegible]
10_02_18	00:47:00	352.9727	350.1184	[illegible]	[illegible]	[illegible]
10_02_18	00:48:00	351.3047	350.1631	[illegible]	[illegible]	[illegible]
10_02_18	00:49:00	349.9375	350.1749	[illegible]	[illegible]	[illegible]
10_02_18	00:50:00	349.1172	350.1617	[illegible]	[illegible]	[illegible]
10_02_18	00:51:00	345.7266	350.1325	[illegible]	[illegible]	[illegible]
10_02_18	00:52:00	343.1836	350.066	[illegible]	[illegible]	[illegible]
10_02_18	00:53:00	344.6602	349.953	[illegible]	[illegible]	[illegible]
10_02_18	00:54:00	342.4453	349.8632	[illegible]	[illegible]	[illegible]
10_02_18	00:55:00	341.7617	349.7474	[illegible]	[illegible]	[illegible]
10_02_18	00:56:00	344.8789	349.6148	[illegible]	[illegible]	[illegible]
10_02_18	00:57:00	347.8594	349.5588	[illegible]	[illegible]	[illegible]
10_02_18	00:58:00	348.5156	349.5364	[illegible]	[illegible]	[illegible]
10_02_18	00:59:00	349.7734	349.5078	[illegible]	[illegible]	[illegible]
10_02_18	01:00:00	351.606	349.489	349.489	0.000	None
10_02_18	01:01:00	352.043	349.506	349.506	0.000	[illegible]
10_02_18	01:02:00	351.742	349.535	349.535	0.000	[illegible]
10_02_18	01:03:00	351.906	349.578	349.578	0.000	[illegible]
10_02_18	01:04:00	350.731	349.607	349.607	0.000	[illegible]
10_02_18	01:05:00	350.184	349.606	349.606	0.000	[illegible]
10_02_18	01:06:00	350.512	349.581	349.581	0.000	[illegible]
10_02_18	01:07:00	351.715	349.570	349.570	0.000	[illegible]
10_02_18	01:08:00	353.137	349.579	349.579	0.000	[illegible]
10_02_18	01:09:00	352.672	349.628	349.628	0.000	[illegible]
10_02_18	01:10:00	351.059	349.698	349.698	0.000	[illegible]

DEQ VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

Commonwealth of Virginia

Registration No: 20656
Plant Name: Alliant Techsystems Inc
Address: Peppers Ferry Rd

AFS Plant ID: 121-00006
Classification: Major/Potential Major
Region: Blue Ridge
Report No: 274365

AIR INSPECTION REPORT

Inspection Date: 03/09/11
Type: PCE Without Site Visit
Inspector: Mary S Monroe
Inspection Result: In Compliance

Contact Name: Phillip E Lockard
Contact Phone No: (540)639-8344

Air Program	Subpart
TITLE V	
SIP	

Reason:
Review T5 Semiannual Monitoring Report

****Additional Information is Attached****

Inspector Comments:
A Partial Compliance Evaluation was completed of a submittal from Alliant Techsystems, Inc. The facility submitted the Title V Semi-annual Monitoring Report in accordance with Condition XIII.C.3: of the January 15, 2004 Title V Permit. The report was received on February 28, 2011 and covered the time period of July 1, 2010 through December 31, 2010. A revised report was submitted on March 9, 2011 which included the responsible official's signature and date.

The facility identified the following deviations as a result of required monitoring:
1. Deviations due to malfunctions were addressed in letters dated: 8/2/10, 9/2/10, 12/20/10, 12/21/10
2. Deviations were previously described in Prompt Deviation Reports dated: 7/7/10 & 8/12/10
3. "Other Deviations" which were not previously reported are described in the "Plant-wide Summary of Deviations". This spreadsheet included the equipment, description, duration and magnitude of emissions/opacity if known, and the corrective actions taken.

"Other Deviations" Form:
III.A.5.: Excess opacity from Boilers 2, 3, 4 and/or 5 as reported in the referenced summary
VII.A.4.: Fired heater acid gas outlet temperature < 500 degrees F during SCR operation on 2 dates (Nitrator Lines 1 and 2 were shutdown)
VII.A.7.: Excess opacity from the piccolo scrubber as reported in the referenced summary
X.A.7 and XIII.G.: Excess visible emissions from NAC/SAC Incinerators 2 or 3 as reported in the referenced summary
XIII.X.: Maintenance records by contractors that serviced equipment are incomplete. The facility is continuing to work with contractors for refrigeration and HVAC equipment to ensure compliance with this condition.
XIII.Z.: The facility updated and revised the RFAAP Risk Management Plan (RMP). The RMP was submitted electronically to the EPA on 10/17/10.

Deviations were also listed in the "Failure to Monitor, Keep Records or Report" form:
VI.C.b. & VI.D.2.: Due to operator error, the 1/9/10 sample was not delivered to the lab for analysis. This deviation was not included in the TV SAMR for the period of 1/10 - 6/10.
VII.B.1.: On 11/7/10 and 12/28/10, CD assessments were not conducted for the SCR NOx CEMS.

DEQ
VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

Commonwealth of Virginia

Registration No:	20656	**AFS Plant ID:**	121-00006
Plant Name:	Alliant Techsystems Inc	**Classification:**	Major/Potential Major
Address:	Peppers Ferry Rd	**Region:**	Blue Ridge
		Report No:	274365

AIR INSPECTION REPORT

Inspector Comments:

IX.B.1: The total duration of excess emissions and/or OPL exceedances during this reporting period were <0.04% and <0.085% of the operating time for 440 and 441 incinerators. The RFAAP Engineering staff corrected programming issues relating to the AWFCO system and out-of-control data. This was completed during the second half of 2010.

IX.C.1.: One-hour rolling averages of certain OPLs were not the average of the previously recorded sixty one-minute averages. This issue was corrected in December 2010 by the RFAAP Engineering staff.

On 3/8/11 and 3/9/11, staff contacted Phil Lockard/ATK and discussed the reporting requirements for the Title V Semi-annual Monitoring Report. The facility was advised that if deviations were addressed in CEMS EERs and/or MACT Reports; these report dates must also be included in the report. Staff requested that the facility use the Department's Title V Prompt Deviation Report Form for clarification when applicable.

The reported deviations and the corrective actions taken were reviewed and evaluated. The submittal included the Document Certification and Kent Holiday VP & General Manager, Energetitics Division and Antonio Munera, LTC, CM, Commanding were the signing responsible officials.

Mary S. Monroe

Inspector's Electronic Signature
Approval Date: Mar 9, 2011

Frank Adams

Manager's Electronic Signature
Approval Date: 3/11/11

DEQ
VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

Commonwealth of Virginia

Registration No:	20656	**AFS Plant ID:**	121-00006
Plant Name:	Alliant Techsystems Inc	**Classification:**	Major/Potential Major
Address:	Peppers Ferry Rd	**Region:**	Blue Ridge
		Report No:	274365

INSPECTION CHECKLIST

Permit Date or Basis	#	Requirement Narrative	Observation	Comp Status
01-15-04	XIII. C.3	The permittee shall submit the results of monitoring contained in any applicable requirement to DEQ no later than March 1 and September 1 of each calendar year. This report must be signed by a responsible official, consistent with 9 VAC 5-80-80 G. (Note that much of the recordkeeping required by this permit also serves as required periodic monitoring to determine emissions compliance and therefore needs to be addressed in the periodic reports.) The details of the reports are to be arranged with the Director, West Central Regional Office. The reports shall include: a. The time period included in the report. The time periods to be addressed are January 1 to June 30 and July 1 to December 31. b. All deviations from permit requirements. For purposes of this permit, deviations include, but are not limited to: (1) Exceedance of emissions limitations or operational restrictions; (2) Excursions from control device operating parameter requirements, as documented by continuous emission monitoring, periodic monitoring, or compliance assurance	The Title V Semi-annual Monitoring Report was submitted in accordance with the requirements of this condition.	In Compliance

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

Commonwealth of Virginia

Registration No:	20656	**AFS Plant ID:**	121-00006
Plant Name:	Alliant Techsystems Inc	**Classification:**	Major/Potential Major
Address:	Peppers Ferry Rd	**Region:**	Blue Ridge
		Report No:	274365

INSPECTION CHECKLIST

Permit Date or Basis	#	Requirement Narrative	Observation	Comp Status

monitoring which indicates an exceedance of emission limitations or operational restrictions; or,

(3) Failure to meet monitoring, recordkeeping, or reporting requirements contained in this permit.

c. If there were no deviations from permit conditions during the time period, the permittee shall include a statement in the report that "no deviations from permit requirements occurred during this semi-annual reporting period."

The report shall be sent to the following address:

Director, West Central Regional Office
ATTN: Air Compliance Manager
Virginia DEQ
3019 Peters Creek Road
Roanoke, VA 24019
(9 VAC 5-80-110 F)

#20656

Monroe, Mary (DEQ)

From: Lockard, Phillip [Phillip.Lockard@ATK.COM]
Sent: Wednesday, March 09, 2011 11:45 AM
To: Monroe, Mary (DEQ)
Subject: Dated Form
Attachments: Dated Semiannual Form.pdf

Mary,

Attached is the dated Title V semi-annual deviation report form.

Let me know if you have any questions.

Phil

<<Dated Semiannual Form.pdf>>

To: DIRECTOR, BLUE RIDGE REGIONAL OFFICE, VADEQ

From: Radford Army Ammunition Plant **Registration Number** 20656

Re: SEMI-ANNUAL MONITORING REPORT – Pursuant to Title V Permit

Date: February 1, 2011

The following monitoring report is submitted as required by our Title V permit. For the purposes of this report, deviation means: (1) exceedances of emission limits, as determined by such means as stack testing, continuous emission monitors, parametric monitoring and EPA Method 9 visible evaluations; (2) excursions from control device operating parameter requirements such as afterburner temperature, scrubber flow rate, baghouse pressure drop; (3) excursions from operational restrictions such as throughput, fuel quality, and coating VOC and HAP content; and (4) failure to meet monitoring, recordkeeping or reporting requirements. The report addresses all data points, which are above a standard, limit etc, according to the averaging period, if any, specified in the permit. If no averaging period is specified in the permit, then any monitored reading which is outside a specified standard, limit or range is considered a deviation to be reported. Deviations are reported regardless of whether they may have caused excess emissions or whether they were the result of a malfunction.

The period covered by the report is from 7/1/2010 to 12/31/2010.

During the reporting period:

☐ No deviations from permit requirements occurred during this semi-annual reporting period. We conducted all required monitoring and associated recordkeeping and reporting. Monitoring revealed no deviations from permit requirements.)

☒ We failed to conduct required monitoring/recordkeeping/reporting as explained on the attached form.

☒ We identified deviations as a result of required monitoring:

- ☐ Deviations were addressed in CEM Excess Emission Report(s) dated: _____
- ☐ Deviations were addressed in Fuel Report(s) dated: _____
- ☐ Deviations were addressed in MACT Report(s) dated: _____
- ☒ Deviations due to malfunctions were addressed in letters dated: August 2, 2010, September 2, 2010, December 20, 2010 and December 21, 2010
- ☐ Deviations were addressed in other report(s) dated: _____
  Type of report: _____
- ☒ Deviations were previously described in Prompt Deviation Reports dated: July 7, 2010 and August 12, 2010
- ☒ "Other deviations, which were not previously reported, are described in the Attachment Plant-wide Summary of Deviations

Certification: I certify under penalty of law that this document and all attachments were prepared under by direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering and evaluating the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

2/25/11 Kent Holiday VP & General Manager Energetics Division
(Signature and Date) *(Name & Title)*

Antonio Munera 2/25/11 Antonio Munera, LTC, CM, Commanding
(Signature and Date) *(Name & Title)*

ATK Armament Systems
Energetic Systems
Radford Army Ammunition Plant
Route 114, P.O. Box 1
Radford, VA 24143-0100

www.atk.com

February 10, 2011

Mr. Robert Weld
Department of Environmental Quality
Blue Ridge Regional Office
3019 Peters Creek Road
Roanoke, VA 24019

Subject: Air Compliance Reports

Dear Mr. Weld:

Enclosed please find the DEQ form titled Semi-Annual Monitoring Report, including Plant-Wide Summary of Deviations and DEQ form titled Failure To Monitor, Keep Records Or Report, for the period of July 1 through December 31, 2010.

"Other deviations" are presented in the attached RFAAP Plant-wide Summary of Deviations spreadsheet, as per DEQ approval following discussions between Jody Lambert of DEQ and Paige Holt of RFAAP on May 22, 2004. This spreadsheet includes exceedances of the visible emissions limits specified in permit conditions III.A.5, VII.A.7 and X.A.7 for various processes at RFAAP. It includes supporting information that indicates that the affected facility is maintained and operated during these incidents in a manner consistent with air pollution control practices for minimizing emissions in accordance with permit condition XIII.G. This spreadsheet only contains incidents that lasted for less than 60 consecutive minutes, which have not previously been reported. Those exceedances that occurred for more than 60 consecutive minutes were previously summarized in reports submitted to DEQ. Copies of these reports are included as part of this report.

A number of the deviations reported in the past have been exceedances of the visible emission standard specified in permit condition X.A.7 associated with trips of the NAC/SAC process incinerators. This process was taken out of service during the latter part of 2010 and replaced with a new NAC/SAC process. Since the new process uses pressurized absorption to control NOx emissions in lieu of incineration, the replacement of the NAC/SAC process has eliminated such permit deviations. The last deviation of this type occurred on October 22, 2010.

Should there be any questions regarding this report or any of the attachments herein, please contact Phil Lockard of my staff, 540-639-8344.

Sincerely,

Paige Holt

Paige W. Holt, Environmental Manager
Alliant Techsystems Inc.

Enclosures

cc: Clean Air Act Title V Compliance Certification (3AP00)
U.S. Environmental Protection Agency, Region III
1650 Arch Street
Philadelphia, PA 19103-2029

11-815-23
PLockard

To: DIRECTOR, BLUE RIDGE REGIONAL OFFICE, VADEQ

From: Radford Army Ammunition Plant Registration Number 20656

Re: SEMI-ANNUAL MONITORING REPORT – Pursuant to Title V Permit

Date: February 1, 2011

The following monitoring report is submitted as required by our Title V permit. For the purposes of this report, deviation means: (1) exceedances of emission limits, as determined by such means as stack testing, continuous emission monitors, parametric monitoring and EPA Method 9 visible evaluations; (2) excursions from control device operating parameter requirements such as afterburner temperature, scrubber flow rate, baghouse pressure drop; (3) excursions from operational restrictions such as throughput, fuel quality, and coating VOC and HAP content; and (4) failure to meet monitoring, recordkeeping or reporting requirements. The report addresses all data points, which are above a standard, limit etc, according to the averaging period, if any, specified in the permit. If no averaging period is specified in the permit, then any monitored reading which is outside a specified standard, limit or range is considered a deviation to be reported. Deviations are reported regardless of whether they may have caused excess emissions or whether they were the result of a malfunction.

The period covered by the report is from 7/1/2010 to 12/31/2010.

During the reporting period:

☐ **No deviations from permit requirements occurred during this semi-annual reporting period. We conducted all required monitoring and associated recordkeeping and reporting. Monitoring revealed no deviations from permit requirements.)**

☒ **We failed to conduct required monitoring/recordkeeping/reporting as explained on the attached form.**

☒ **We identified deviations as a result of required monitoring:**

- ☐ **Deviations were addressed in CEM Excess Emission Report(s) dated:** _____
- ☐ **Deviations were addressed in Fuel Report(s) dated:** _____
- ☐ **Deviations were addressed in MACT Report(s) dated:** _____
- ☒ **Deviations due to malfunctions were addressed in letters dated: August 2, 2010, September 2, 2010, December 20, 2010 and December 21, 2010**
- ☐ **Deviations were addressed in other report(s) dated:** _____
  Type of report: _____
- ☒ **Deviations were previously described in Prompt Deviation Reports dated:**
  July 7, 2010 and August 12, 2010 _____
- ☒ **"Other deviations, which were not previously reported, are described in the Attachment Plant-wide Summary of Deviations**

Certification: I certify under penalty of law that this document and all attachments were prepared under by direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted, Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering and evaluating the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

_____ Kent Holiday VP & General Manager Energetics Division
(Signature and Date) *(Name & Title)*

_____ Antonio Munera, LTC, CM, Commanding
(Signature and Date) *(Name & Title)*

FAILURE TO MONITOR, KEEP RECORDS OR REPORT **Registration No. 20656** **Page 1 of 8**

Submitted as Part of Semi-Annual Monitoring Report **Reporting Period: 7/1/10 to 12/31/10**

Permit Condition No. & DESCRIPTION OF REQUIREMENT	DESCRIPTION OF DEVIATION (including date)	REASON FOR DEVIATION & CORRECTIVE ACTION TAKEN
VI.C.b Records must be maintained of daily ether and ethanol concentration data from analysis of either a 24-hour composite sample or grab sample from the wastewater treatment influent. VI.D.2 The permittee shall conduct daily sampling by collection of a 24-hour composite sample or grab sample from the wastewater treatment influent. The permittee shall also conduct analyses for the daily concentrations of ether and ethanol in the wastewater stream which contribute the majority of volatile organic compound emissions from the operation of the Biological Equalization Tanks. The compounds shall be analyzed by gas chromotography or other method as approved by the Board in order to demonstrate compliance with the emission limits contained in Condition VI.A.3 of this permit.	Operator error caused the sample for January 9, 2010 to not be delivered to the lab for analysis.	Procedures were then revised to collect, deliver, and document the three required daily samples through chain of custody and to use dedicated/labeled sample holders. (This deviation was inadvertently not included in the 1H2010 deviation report.).

FAILURE TO MONITOR, KEEP RECORDS OR REPORT **Registration No. 20656** **Page 2 of 8**

Submitted as Part of Semi-Annual Monitoring Report **Reporting Period: 7/1/10 to 12/31/10**

Permit Condition No. & DESCRIPTION OF REQUIREMENT	DESCRIPTION OF DEVIATION (including date)	REASON FOR DEVIATION & CORRECTIVE ACTION TAKEN
VII.B.1 The SCR exhaust shall be equipped with a continuous monitor to measure and record the concentration of NOx. The monitor shall be maintained, located, and calibrated in accordance with approved procedures (ref. 40 CFR 60.13 and 40 CFR 60 Appendix B).	The referenced procedures require that a daily calibration drift (CD) assessment be performed as part of the quality assurance procedures. On November 7 and December 28, 2010, CD assessments were not performed. The nitration process (nitrator lines 1 and 2) were out of service on December 28.	The daily CD assessments are programmed to be performed automatically by the monitoring system. It is believed that a program failure resulted in the CD assessments not being performed. Although the exact cause of these failures is unknown, the SCR operators have been instructed to manually perform CD assessment if in the future the systems fails to conduct it automatically.

FAILURE TO MONITOR, KEEP RECORDS OR REPORT **Registration No. 20656** **Page of 8**

Submitted as Part of Semi-Annual Monitoring Report **Reporting Period: 7/1/10 to 12/31/10**

Permit Condition No. & DESCRIPTION OF REQUIREMENT	DESCRIPTION OF DEVIATION (including date)	REASON FOR DEVIATION & CORRECTIVE ACTION TAKEN
IX.B.1 The permittee shall comply with the operating requirements and operating parameter limits specified in the September 29, 2003 or most current Documentation of Compliance prepared pursuant to 40 CFR 63, Subpart EEE, Section 63.1211; with the operating requirements and operating parameter limits specified in the Notification of Compliance prepared pursuant to 40 CFR 63, Subpart EEE, Section 63.1210; and with monitoring requirements in accordance with 40 CFR 63, Subpart EEE, Section 63.1209.	As listed in the 1H10 semi-annual report submitted pursuant to section 63.1210, the continuous CO monitor records excess emissions and continuous parametric monitoring systems exceed OPLs (operating parameter limits) which either activate the AWFCO (automatic waste feed cutoff) system or occur after it is activated but while residual waste may still be in rotating kiln incinerator. The total duration of excess emissions and/or OPL exceedances during this reporting period represent <0.04% and <0.085% of the operating time for 440 and 441 incinerators, respectively. Nevertheless, each instance that is not a startup, shutdown, or malfunction represents a deviation from this requirement.	Revised OPLs were established based on the CPTs conducted in September 2009 and in March 2010. RFAAP submitted a revised NOC including these revised OPLs on April 27, 2010. AWFCO system is activated whenever OPLs or emission limits are exceeded to ensure that each instance does not exceed the waste residence period of 20 minutes after waste propellant feed is shut off.
	RFAAP discovered during an internal review of its MACT compliance activities conducted during 1Q10 that all of the span values for the continuous monitoring systems have not been programmed into the AWFCO activation as required by 63.1206(c)(3)(i)(B) (except for hourly rolling average CO). For example, the 441 O2 analyzer used to monitor corrected CO concentrations malfunctioned and recorded span values of "0" on June 16, 2010 from 3:51 -9:35 am but the 441 AWFCO did not activate.	The RFAAP Systems Engineering project to correct this issue was completed during 2H2010.
	RFAAP discovered during an internal review of its MACT compliance activities conducted during 1Q10 that the current monitoring and record-keeping system does not identify "out-of-control" data nor allow for such data to be excluded from rolling average calculations as required by 63.8(g)(5) [1].	The RFAAP Systems Engineering project to correct this issue was completed during 2H2010.

[1] Monitoring data recorded during periods of unavoidable CMS breakdowns, out-of-control periods, repairs, maintenance periods, calibration checks, and zero (low-level) and high-level adjustments must not be included in any data average computed under this part.

FAILURE TO MONITOR, KEEP RECORDS OR REPORT **Registration No. 20656** **Page 4 of 8**

Submitted as Part of Semi-Annual Monitoring Report **Reporting Period: 7/1/10 to 12/31/10**

Permit Condition No. & DESCRIPTION OF REQUIREMENT	DESCRIPTION OF DEVIATION (including date)	REASON FOR DEVIATION & CORRECTIVE ACTION TAKEN
IX.C. The permittee shall maintain records in accordance with 40 CFR 63, Subpart EEE, Section 63.1211.	RFAAP discovered during an internal review of its MACT compliance activities conducted during 1Q10 that some records were missing or incorrect: ➢ 1-hr rolling averages of these OPLs are not the average of the previously recorded sixty 1-min average records for these OPLs: o Kiln exit temperature o Afterburner exit temperature o Inlet BH temperature o Stack gas velocity o Scrubber water flow o Slurry feed rate ➢ Feed stream Analysis Plan (FAP) includes outdated methods that are no longer practiced ➢ Startup/Shutdown/Malfunction (SSM) plan was not updated between 2003 and December 2010 to include additional malfunctions, investigation requirements for recurring malfunctions, and revised response procedures to such malfunctions.	RFAAP reviewed the control systems logic for its OPL averaging calculations to identify why these 6 hourly rolling average records cannot be manually validated exactly by averaging the corresponding 1-minute averages for those OPLs. A project to correct this issue was completed in December 2010 by RFAAP Systems Engineering personnel. Revisions to the SSMP were completed by December 2010. The waste propellant analysis lab procedures referenced by the FAP were documented during 2H2010.

Condition No. & Description of Requirement	Description of Deviation (time, emission unit, description of event, cause)	Description of Associated Monitoring Requirement	Description of corrective measures taken (demonstrating a timely & appropriate response)
III.A.5 Boilers 2, 3, 4, and/or 5 visible emissions < 20% opacity	Excess opacity from Boilers 2, 3, 4, and/or 5 as reported in attached summary of deviations	Other material information provided by COMS voluntarily installed and placed in operation during 2007.	Followed SOP as reported in attached summary of deviations
VII.A.4 Fired heater acid gas outlet temperature between 500- 650 °F during operation	Fired heater acid gas outlet temperature < 500 °F during SCR operation on these dates while both Nitrator Lines 1 and 2 were shut down: • July 17 12:00-16:00 • August 1 11:00-13:00	Active Factory tag ID 3055-TI-647 and daily operating logsheets that record temperature hourly	Title V permit does not indicate whether "operation" refers to SCR operation or operation of the NC nitrators. Both of these temperature excursions occurred while the SCR was in operation but was only controlling emissions from acid storage tanks.
VII.A.7 visible emissions < 20% opacity	Excess opacity from piccolo scrubber as reported in attached summary of deviations may have occurred on July 12, 2010 from the piccolo scrubber while repairs to the SCR process were being made. The NC nitration process was out of service during this event.	Other material information provided by Method 22 observations of visible emissions	Followed SOP to shutdown NC nitrators when SCR is bypassed as reported in attached summary of deviations.

"OTHER" DEVIATIONS

Submitted as Part of Semi-Annual Monitoring Report

Registration No. 20656 **Page** 6 **of** 8

Reporting Period: 7/1/2010 **to** 12/31/2010

Condition No. & Description of Requirement	Description of Deviation (time, emission unit, description of event, cause)	Description of Associated Monitoring Requirement	Description of corrective measures taken (immediate, timely & appropriate response)
X.A.7 and XIII.G Visible Emissions <20% opacity	Excess visible emissions from NACSAC Incinerators 2 or 3 or from Acid tank farm vent scrubber as reported in attached summary of deviations	Other material information provided by Method 22 observations of visible emissions	Followed SOP to shutdown NACSAC train as reported in attached summary of deviations. This NAC/SAC process has now been replaced by a new NACSAC process which uses pressurized absorption to control NOx emissions. This has eliminated excess emissions from incinerator trips. A major overhaul of the tank farm scrubber is expected to be complete by 1Q2011.

Condition No. & Description of Requirement	Description of Deviation (time, emission unit, description of event, cause)	Description of Associated Monitoring Requirement	Description of corrective measures taken (demonstrating timely & appropriate response)
XIII.X Comply with 40 CFR Part 82, Subparts A to F for all Class I or II substances.	Maintenance records by contractors who serviced equipment are incomplete and do not record the full refrigerant charge in each circuit of service refrigeration equipment. Full refrigerant charge in each circuit is not readily available for RFAAP equipment for reference by the servicing contractors. So, percent leak rates were not recorded during each instance that a Class II substance was charged into equipment subject to these leak repair and record-keeping requirements. RFAAP records indicate that no Class I substances are present in any on-site refrigeration equipment but that Class II substances are present. Only refrigeration equipment with more than 50# charge of a Class II substance in any circuit is subject to this % leak rate record-keeping and reporting requirement, but RFAAP records do not readily identify which of its existing refrigeration equipment contains more than 50# of a Class II substance in at least one circuit.	RFAAP periodically reviews contract maintenance equipment servicing records for compliance with this permit condition.	During 2H10, RFAAP continued to work with its maintenance contractors for refrigeration and HVAC equipment to ensure that they comply with this permit condition. RFAAP is establishing a site-wide equipment list to include which equipment is subject to this regulation referenced by this permit condition.

"OTHER" DEVIATIONS

Submitted as Part of Semi-Annual Monitoring Report

Registration No. 20656 **Page** 8 **of** 8

Reporting Period: 7/1/2010 **to** 12/31/2010

Condition No. & Description of Requirement	Description of Deviation (time, emission unit, description of event, cause)	Description of Associated Monitoring Requirement	Description of corrective measures taken (demonstrating a timely & appropriate response)
XIII.Z. Accidental Release Prevention If the permittee has more, or will have more than a threshold quantity of a regulated substance in a process, as determined by 40 CFR 68.115, the permittee shall comply with the requirements of 40 CFR Part 68.	RFAAP conducted an RMP compliance audit of the requirements of 40 CFR Part 68 Subpart D pursuant to 40 CFR 68.79 during 2Q10. As a result of this audit, RFAAP discovered opportunities to enhance its existing records to more quickly demonstrate compliance with several specific RMP requirements applicable to RFAAP ammonia and strong nitric acid storage area "processes". Some of these record-keeping gaps may also represent a deviation from the RMP requirement in 68.12(d)(3) to "implement the prevention requirements of 68.65 through 68.87."	Various records referenced by or incorporated in the current RFAAP RMP were found to be either out-dated or not specific enough, including, but not limited to: PSI (68.65) PHAs (68.67) Op. procedures (68.69) Training (68.71) Mech. Integrity (68.73) Compliance Audits (68.79) Incident Investigation (68.81) Employee Participation (68.83) Contractors (68.87)	PHAs were conducted for the required processes during September and October of 2010. RFAAP's RMP was reviewed, revised and electronically submitted to EPA on October 17, 2010 pursuant to 68.190(a). Revisions to the RMP included the newly performed PHAs.

(Report deviations which may have caused excess emissions for more than one hour on a prompt deviation report form, not here)

Plant-wide Summary of Deviations												
				Unit								
Date	Start Time	Area	Equipment	#1	#2	#3	#4	#5	Description of Deviation and Root Cause	Duration	Magnitude of Emissions or Opacity, If Known	Immediate Response and Corrective Action
7/3/2010	12:24 AM	PH	Boilers			X			Shutdown of Boiler 3	12 minutes	38.9%	Followed SOP
7/6/2010	5:24 AM	PH	Boilers			X			Start-up of Boiler 3	24 minutes	55.8%	Followed SOP
7/6/2010	2:24 PM	PH	Boilers				X		Start-up of Boiler 4	18 minutes	72.1%	Followed SOP
7/6/2010	4:30 PM	PH	Boilers					X	Start-up of boiler 5	18 minuttes	32.4%	Followed SOP
7/8/2010	8:42 PM	PH	Boilers				X		Start-up of boiler 4	18 min	21.4%	Followed SOP
7/12/2010	10:00 AM	NC	Piccolo Scrubber						SCR down to repair flange so TF fumes diverted to Piccolo scrubber.			Followed SOP
7/15/2010	9:00 AM	Acid	Incinerator			X			Incinerator tripped	10 minutes	Unknown	Relit at 9:10
7/15/2010	9:05 AM	Acid	Incinerator		X				Incinerator tripped	9 minutes	Unknown	Relit at 9:14
7/15/2010	9:15 AM	Acid	Incinerator			X			Incinerator tripped	9 minutes	Unknown	Relit at 9:24
7/15/2010	9:17 AM	Acid	Incinerator		X				Incinerator tripped	3 minutes	Unknown	Relit at 9:20
7/16/2010	6:00 AM	PH	Boilers					X	Shut down 5A pulervizer to remove debris	18 min	73.0%	Used fuel oil to support pressure while mill was cleaned per SOP
7/16/2010	10:54 PM	PH	Boilers			X	X		Shutdown Boiler 3 and startup Boiler 4	36 min	51.8%	Followed SOP
7/17/2010	11:30 AM	Acid	Incinerator		X	X			Both incinerators tripped due to power outage	8 minutes	Unknown	Relit at 11:38
7/17/2010	11:42 AM	PH	Boilers				X	X	Boilers No. 4 & 5 tripped due to electrical transients	18 min	68.2%	Restarted boilers in accordance with SOP
7/17/2010	12:55 PM	Acid	Incinerator		X				Incinerator tripped after changing pyro tanks	9 minutes	Unknown	Relit at 1:04
7/19/2010	7:18 PM	PH	Boilers		X	X	X	X	Soot-blowing	12 min	30.0%	Followed SOP
8/9/2010	2:20 AM	Acid	Incinerator			X			Incinerator tripped	5 minutes	Unknown	Relit at 2:25 am
8/13/2010	1:44 AM	Acid	Incinerator		X				Incunerator tripped. Low gas pressure.	5 minutes	Unknown	Relit at 1:49am
8/16/2010	2:12 AM	PH	Boilers					X	Shutdown Boiler 5	18 min	42.3%	Followed SOP
8/16/2010	5:12 PM	PH	Boilers			X	X		Soot-blowing	12 min	23.9%	Followed SOP
8/17/2010	1:54 PM	PH	Boilers		X				No. 2 Turbine gov. increased electric load, which overloaded boilers	24 min	24.5%	Repaired No. 2 Turbine gov.
8/19/2010	1:30 PM	PH	boilers		X				Started No. 2 Turbine for gov. test	18 min	54.3%	Followed SOP
8/21/2010	2:12 AM	PH	Boilers			X	X		Soot-blowing	12 min	29.8%	Followed SOP
8/23/2010	9:00 AM	PH	Boilers						Boiler 3, suspected superheater tube leak	60 min, intermittently	40.5%	Put Boiler 5 on line and shut Boiler 3 down per SOP
8/23/2010	6:06 PM	PH	Boilers				X	X	Soot-blowing	12 min	43.9%	Followed SOP
8/24/2010	6:12 PM	PH	Boilers				X	X	Soot-blowing	12 min	28.5%	Followed SOP
8/26/2010	2:06 AM	PH	Boilers				X	X	Soot-blowing	18 min	28.9%	Followed SOP
8/27/2010	4:30 AM	PH	Boilers						5B coal pipe plugged up, Burned fuel oil in Boiler 4 to support steam pressure	12 min	65.4%	Cleaned coal pipe per SOP and returned 5B Mill to service
8/27/2010	1:48 PM	PH	Boilers		X	X	X	X	Soot-blowing	12 min	29.1%	Followed SOP
9/1/2010	5:48 PM	PH	Boilers						No. 1 Turbine on-line increased steam demand	18 min	57.8%	Followed SOP
9/4/2010	2:12 AM	PH	Boilers				X	X	Soot-blowing	12 min	30.6%	Followed SOP
9/5/2010	2:06 AM	PH	Boilers				X	X	Soot-blowing	12 min	43.5%	Followed SOP
9/6/2010	2:06 AM	PH	Boilers				X	X	Soot-blowing	12 min	36.8%	Followed SOP
9/8/2010	9:48 PM	PH	Boilers				X		Slagging No. 4 and cleaning burners	12 min	49.0%	Followed SOP
9/9/2010	6:06 PM	PH	Boilers				X	X	Soot-blowing	18 min	35.1%	Followed SOP
9/10/2010	6:12 PM	PH	Boilers				X	X	Soot-blowing	18 min	31.2%	Followed SOP
9/11/2010	6:12 PM	PH	Boilers				X	X	Soot-blowing	12 min	34.4%	Followed SOP
9/12/2010	6:12 PM	PH	Boilers				X	X	Soot-blowing	12 min	35.2%	Followed SOP
9/13/2010	1:18 PM	PH	Boilers				X	X	Testing No.2 T/G with Boilers No.4 & 5	18 min	27.1%	Followed SOP
9/13/2010	6:00 PM	PH	Boilers				X	X	Soot-blowing	18 min	50.7%	Followed SOP
9/14/2010	2:18 AM	PH	Boilers				X	X	Soot-blowing	12 min	21.4%	Followed SOP
9/15/2010	2:30 AM	PH	Boilers				X	X	Soot-blowing	12 min	23.2%	Followed SOP
9/15/2010	8:00 AM	PH	Boilers				X	X	Adjusting air/fuel on Boilers 4 & 5	18 min	55.5%	Followed SOP

Plant-wide Summary of Deviations

				Unit								
Date	Start Time	Area	Equipment	#1	#2	#3	#4	#5	Description of Deviation and Root Cause	Duration	Magnitude of Emissions or Opacity, if Known	Immediate Response and Corrective Action
9/15/2010	12:30 PM	PH	Boilers				X	X	Bringing No. 2 T/G on line for testing using No. 4 & 5 Boilers	12 min	63.8%	Followed SOP
9/16/2010	2:12 AM	PH	Boilers				X	X	Soot-blowing	12 min	25.1%	Followed SOP
9/16/2010	7:00 AM	PH	Boilers				X	X	Cleaning Boilers 4 and 5	12 min	62.4%	
9/16/2010	7:06 PM	PH	Boilers		X	X			Start up of Boiler # 2, firing up of boiler #2	18 min	24.4%	Followed SOP
9/17/2010	12:30 PM	PH	Boilers					X	Shutdown of Boiler # 5 in preparation for annual inspection	18 min	27.7%	Followed SOP
9/20/2010	6:55 AM	Acid	Incinerator		X				Incinerator tripped Low gas pressure	5 Minutes	Unknown	Relit at 7am
9/20/2010	8:12 PM	PH	Boilers		X	X			Start up of B Mill on Boiler # 3	18 min	31.1%	Followed SOP
9/28/2010	2:30 AM	PH	Boilers		X	X	X		Soot-blowing	18 min	34.9%	Followed SOP
9/29/2010	2:00 PM	EWI	Incinerator-CEMS	X					EWI 440 Data for ACA 3Q was lost reconducted 10-13-10 in 4Q		none	Scheduled retest afer searching active factory data and found missing for time period due to PLC communication issues during controls upgrade - EWI doen from August 23 to October 2
9/30/2010	12:48 PM	PH	Boilers		X	X	X		Increased steam demand requiring fuel oil	12 min	54.6%	Followed SOP
9/30/2010	4:48 PM	PH	Boilers		X	X	X		Coal feeder problems	12 min	37.9%	Followed SOP
10/1/2010	6:12 AM	PH	Boilers		X	X	X		Coal feeder problems	12 min	36.2%	Followed SOP
10/4/2010	2:12 AM	PH	Boilers		X	X	X		Soot-blowing	18 min	35.6%	Followed SOP
10/4/2010	7:24 AM	PH	Boilers						Boiler 2 tripped off line due to loss of fuel (plugged feeder chute). Used fuel oil to support pressure while chute was cleaned.	66 min, intermittently	79.4%	Followed SOP
10/6/2010	10:48 AM	PH	Boilers		X	X	X		Coal feeder failure	12 min	27.7%	Followed SOP
10/6/2010	6:12 PM	PH	Boilers		X	X	X		Soot-blowing	12 min	31.0%	Followed SOP
10/7/2010	2:24 AM	PH	Boilers		X	X	X		Soot-blowing	12 min	20.7%	Followed SOP
10/7/2010	6:00 PM	PH	Boilers		X	X	X		Soot-blowing	24 min	42.2%	Followed SOP
10/8/2010	2:21 AM	PH	Boilers		X	X	X		Soot-blowing	12 min	27.7%	Followed SOP
10/8/2010	5:24 PM	PH	Boilers		X	X	X		Soot-blowing	18 min	36.6%	Followed SOP
10/9/2010	4:42 PM	PH	Boilers		X				Boiler 2, 2A Feeder tripped off line	18 min	34.9%	Used fuel oil to support system pressure per SOP. Attempted to reset feeder repeatedly. Rest finally took and unit was put back on line.
10/10/2010	6:48 AM	PH	Boilers						Shutdown of Boiler # 4 for ID Fan bearing replacement	66 min, intermittently	82.2%	Followed SOP
10/11/2010	3:30 PM	PH	Boilers			X			Clean 3A pulverizer	12 min	70.3%	Used fuel oil to support system pressure per SOP
10/14/2010	2:12 PM	PH	Boilers		X	X	X		Soot-blowing	24 min	31.8%	Followed SOP
10/16/2010	2:18 AM	PH	Boilers		X	X	X		Soot-blowing	18 min	39.4%	Followed SOP
10/16/2010	2:12 PM	PH	Boilers		X	X	X		Soot-blowing	12 min	25.3%	Followed SOP
10/17/2010	3:00 PM	PH	Boilers		X	X	X		Soot-blowing	12 min	22.0%	Followed SOP
10/18/2010	6:30 PM	PH	Boilers		X	X	X		Soot-blowing	18 min	36.1%	Followed SOP
10/19/2010	6:18 PM	PH	Boilers		X	X	X		Soot-blowing	12 min	31.6%	Followed SOP
10/20/2010	6:06 PM	PH	Boilers		X	X	X		Soot-blowing	18 min	30.5%	Followed SOP
10/21/2010	2:18 AM	PH	Boilers		X	X	X		Soot-blowing	12 min	29.3%	Followed SOP
10/22/2010	2:12 AM	PH	Boilers		X	X	X		Soot-blowing	12 min	26.7%	Followed SOP
10/22/2010	12:35 PM	Acid	Incinerator		X				Tripped out at 12:35pm changed pyro tanks	5 minutes	Unknown	Relit at 12:40pm
10/22/2010	12:48 PM	Acid	Incinerator		X				Tripped out at 12:48pm changed pyro tanks		Unknown	Relit at 12:53pm
10/22/2010	12:55 PM	Acid	Incinerator		X				Tripped out at 12:55pm cleaned peeper	10 minutes	Unknown	Relit at 1:05pm
10/26/2010	6:18 PM	PH	Boilers		X	X	X		Soot-blowing	12 min	26.4%	Followed SOP
10/28/2010	3:12 AM	PH	Boilers				X		Coal feeder failure, 4B pulverizer	18 min	61.4%	Followed SOP

Plant-wide Summary of Deviations												
				Unit								
Date	Start Time	Area	Equipment	#1	#2	#3	#4	#5	Description of Deviation and Root Cause	Duration	Magnitude of Emissions or Opacity, if Known	Immediate Response and Corrective Action
10/30/2010	5:00 PM	PH	Boilers		X	X	X		Soot-blowing	18 min	41.1%	Followed SOP
11/1/2010	8:48 AM	PH	Boilers						Unknown cause	24 min	30.1%	
11/1/2010	1:30 PM	PH	Boilers					X	Start up of No. 5 ID Fan for balancing	12 min	30.3%	Followed SOP
11/2/2010	2:24 AM	PH	Boilers		X	X	X		Soot-blowing	12 min	28.2%	Followed SOP
11/3/2010	2:18 AM	PH	Boilers		X	X	X		Soot-blowing	12 min	46.7%	Followed SOP
11/4/2010	9:36 AM	PH	Boilers					X	Start up of No. 5 ID Fan for balancing	24 min	57.1%	Followed SOP
11/4/2010	11:42 AM	PH	Boilers					X	Balancing No. 5 ID Fan	12 min	41.7%	Followed SOP
11/5/2010	10:48 AM	PH	Boilers		X	X	X		Soot-blowing	12 min	23.4%	Followed SOP
11/9/2010	5:42 PM	PH	Boilers			X			Coal feeder failure, No. 3A pulverizer	18 min	42.3%	Followed SOP
11/11/2010	6:06 PM	PH	Boilers		X	X	X		Soot-blowing	18 min	29.2%	Followed SOP
11/14/2010	2:12 PM	PH	Boilers		X	X	X		Soot-blowing	30 min	24.9%	Followed SOP
11/16/2010	6:00 PM	PH	Boilers		X	X			Soot-blowing	30 min	34.4%	Followed SOP
11/17/2010	2:00 AM	PH	Boilers		X	X	X		Soot-blowing	12 min	23.0%	Followed SOP
11/18/2010	2:12 AM	PH	Boilers		X	X	X		Soot-blowing	18 min	20.8%	Followed SOP
11/19/2010	1:48 PM	PH	Boilers					X	Startup Boiler No. 5	18 min	40.2%	Followed SOP
11/20/2010	2:12 AM	PH	Boilers			X	X	X	Soot-blowing	12 min	33.1%	Followed SOP
11/21/2010	2:36 AM	PH	Boilers			X	X	X	Soot-blowing	18 min	28.9%	Followed SOP
11/22/2010	2:18 AM	PH	Boilers		X				Firing No. 2 Boiler in hot standby	12 min	24.5%	Followed SOP
11/22/2010	2:12 PM	PH	Boilers			X	X	X	Soot-blowing	18 min	30.8%	Followed SOP
11/23/2010	2:12 AM	PH	Boilers			X	X	X	Soot-blowing	24 min	28.8%	Followed SOP
11/23/2010	2:06 PM	PH	Boilers			X	X	X	Soot-blowing	18 min	27.6%	Followed SOP
11/24/2010	2:18 AM	PH	Boilers			X	X	X	Soot-blowing	12 min	24.1%	Followed SOP
11/24/2010	2:12 PM	PH	Boilers			X	X	X	Soot-blowing	12 min	37.3%	Followed SOP
11/24/2010	6:18 PM	PH	Boilers		X				Startup Boikier No. 2	12 min	41.4%	Followed SOP
11/25/2010	2:30 AM	PH	Boilers			X	X	X	Soot-blowing	12 min	28.0%	Followed SOP
11/25/2010	3:12 PM	PH	Boilers			X	X	X	Sudden steam load increase	12 min	25.2%	Redistributed boiler loads between Boilers 3, 4, and 5 per SOP
11/27/2010	12:12 AM	PH	Boilers					X	Startup No. 5B pulverizer	30 min	29.1%	Followed SOP
11/27/2010	4:00 AM	PH	Boilers		X	X	X	X	Soot-blowing	12 min	21.9%	Followed SOP
11/27/2010	10:06 AM	PH	Boilers				X		Debris in No. 4A pulverizer	54 min	86.5%	Shut down mill for cleaning. Used oil to support steam pressure
11/27/2010	4:42 PM	PH	Boilers			X	X	X	Soot-blowing	12 min	20.9%	Followed SOP
11/28/2010	2:18 AM	PH	Boilers			X	X	X	Soot-blowing	12 min	34.8%	Followed SOP
11/28/2010	10:00 AM	PH	Boilers		X	X	X	X	Breakers at CAMBL, 4TH RP, and PH opened. Boiler VFD'S tripped on electrical disturbance.	84 min, intermittently	68.8%	Restarted boilers per SOP. Synchronized TG'S 2 AND 4
11/29/2010	2:12 AM	PH	Boilers			X	X	X	Soot-blowing	12 min	22.8%	Followed SOP
11/29/2010	8:12 AM	PH	Boilers		X				Inspecting wiring in No. ESP	18 min	35.8%	Followed SOP
11/29/2010	11:42 AM	PH	Boilers			X			Shutdown of Boiler # 3 A pulveriver for cleaning debris from classifier	18 min	26.0%	Followed SOP
11/29/2010	1:48 PM	PH	Boilers				X	X	Boilers No. 5 and 4 Tripped on VFD Drives. Boiler No. 4 FD fan would not restart had a blown fuse in the starter motor	54 min	85.9%	Followed SOP
11/29/2010	8:30 PM	PH	Boilers						Cleaned slag from Boilers 3, 4 & 5	78 min, intermittently	41.9%	Followed SOP
11/30/2010	9:36 PM	PH	Boilers		X	X			Startup Boiler 2 and shutdown Boiler 3	12 min	36.4%	Followed SOP
12/1/2010	4:36 AM	PH	Boilers			X	X	X	Cleaned Boilers 3, 4 and 5	18 min	59.6%	Followed SOP
12/1/2010	11:00 AM	PH	Boilers		X	X	X	X	Cleaned slag from Boilers 2, 3 and 4	12 min	45	Followed SOP

Plant-wide Summary of Deviations												
				Unit								
Date	Start Time	Area	Equipment	#1	#2	#3	#4	#5	Description of Deviation and Root Cause	Duration	Magnitude of Emissions or Opacity, if Known	Immediate Response and Corrective Action
12/1/2010	11:48 PM	PH	Boilers				X	X	Increased steam load	18 min	35.9	Redistributed load between boilers per SOP
12/2/2010	2:54 AM	PH	Boilers				X	X	Heavy steam load required fuel oil to maintain steam pressure.	72 min, intermittently	70.1	Reduced turbine load by shifting steam to reducing stations. Adjusted air/fuel on boilers to get fuel oil off, per SOP
12/3/2010	10:54 AM	PH	Boilers						Doing a annual PM on Opacity Monitor	12 min	30	Followed SOP
12/9/2010	1:30 PM	PH	Boilers				X		removed clinker in No. 4 Boiler furnace	36 min	36.2	Followed SOP
12/17/2010	7:06 AM	PH	Boilers				X		Increased steam load, fuel oil used	18 min	83.4	Followed SOP
12/20/2010	2:18 AM	PH	Boilers				X		Soot-blowing	36 min	34.3	Followed SOP
12/20/2010	6:12 PM	PH	Boilers				X		Soot-blowing	18 min	23.9	Followed SOP
12/21/2010	6:12 PM	PH	Boilers				X	X	Soot-blowing	24 min	42.6	Followed SOP
12/22/2010	2:18 AM	PH	Boilers				X	X	Soot-blowing	24 min	25.2	Followed SOP
12/22/2010	6:06 PM	PH	Boilers				X	X	Soot-blowing	12 min	32.4	Followed SOP
12/22/2010	7:42 PM	PH	Boilers				X	X	Startup No. 1 Turbine	18 min	24.1	Followed SOP
12/23/2010	6:00 PM	PH	Boilers				X	X	Soot-blowing	12 min	34.6	Followed SOP
12/24/2010	1:54 AM	PH	Boilers					X	Soot-blowing	18 min	32.3	Followed SOP
12/24/2010	1:18 PM	PH	Boilers					X	Soot-blowing	12 min	30	Followed SOP
12/24/2010	6:06 PM	PH	Boilers					X	Soot-blowing	18 min	38.1	Followed SOP
12/25/2010	2:06 AM	PH	Boilers					X	Soot-blowing	30 min	59.4	Followed SOP
12/25/2010	5:00 PM	PH	Boilers					X	Soot-blowing	18 min	35.2	Followed SOP
12/26/2010	2:21 AM	PH	Boilers					X	Soot-blowing	30 min	49.5	Followed SOP
12/26/2010	8:30 AM	PH	Boilers						Unkown cause	12 min	37.9	
12/27/2010	2:30 AM	PH	Boilers					X	Soot-blowing	39 min	52	Followed SOP
12/30/2010	6:18 PM	PH	Boilers					X	Soot-blowing	12 min	25	Followed SOP
12/31/2010	6:12 PM	PH	Boilers					X	Soot-blowing	30 min	30.7	Followed SOP

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August 2, 2010

Ms. Mary Monroe
Department of Environmental Quality
Blue Ridge Regional Office
3019 Peters Creek Road
Roanoke, Virginia 24019

Subject: Excess Opacity at the Radford Army Ammunition Plant

Dear Ms. Monroe:

This letter is in follow-up to the report made to you on July 23, 2010 regarding a process malfunction and possible excess visible emissions at the Radford Army Ammunition Plant (RFAAP). Below is a summary of this incident and planned corrective action.

At approximately 6:45 PM, a fume-off of nitrogen oxides (NO_X) occurred at the receiving tanks at Building 3007 (Screen House). Dark orange visible emissions were observed being emitted from the stack of the Selective Catalytic Reduction (SCR) process. Operations personnel immediately shutdown both nitration lines and introduced acid into the receiving tanks. The NO_X fuming quickly subsided as a result of these actions. During the fume-off, the fired heater located upstream of the SCR reactor tripped due to the heavy NO_X coming from the receiving tanks, and operations personnel diverted emissions to the backup Piccolo Scrubber as a result this malfunction of the SCR process. Visible emissions were also observed from the Piccolo Scrubber. Visible emissions from this incident lasted for approximately one hour and 15 minutes.

Our investigation has determined that this fume off was caused by a failure of the Line 2 MS dump valve cylinder. This valve was sticking and releasing nitrocellulose (NC) into the No. 2 receiving tank. This likely lowered the acid to cellulose ratio and caused the fume off. In order to prevent a reoccurrence of this incident, we plan to replace this before resuming operation of the No. 2 NC production line.

Please feel free to call Phil Lockard (540-639-8344) or Nichole Herschler (540-639-8766) if you have any questions or need additional information.

Very truly yours,

Paige Hole, Environmental Manager
Alliant Techsystems Inc.

10-815-109
NHerschler

ATK

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September 2, 2010 PL

Mary Monroe
Department of Environmental Quality
Blue Ridge Regional Office
3019 Peters Creek Road
Roanoke, Virginia 24019

Subject: Acid Tank Farm Opacity

Dear Ms. Monroe:

On Thursday, August 19, I called to notify you of excess opacity for more than an hour at the exhaust from the acid tank farm scrubber stack. The area investigated the incident immediately. At the time of the incident, neither NAC/SAC was running and there was no air being used to mix the acid tanks. Area personnel adjusted air and water flows but were initially unable to achieve an acceptable level of visible emissions. This situation is complicated further by the distance between the scrubber and the stack outlet. Approximately an hour is required to see a change in stack opacity from an adjustment to the scrubber parameters.

Additional investigation by area personnel revealed that the bypass valve around the scrubber was allowing fumes to pass through, even though the indicator showed that the valve was closed. Area personnel loosened the valve and manipulated it to achieve a tighter seal, which reduced the opacity to an acceptable level. During the investigation, it was also noted that the water flow meter was not functioning correctly.

It is believed that the previous opacity incident reported to you was probably caused by the same bypass valve concern. Both the valve and the flow meter are being corrected. We are also considering relocating the scrubber outlet to accelerate the troubleshooting process. The outlet had been moved approximately a year ago to minimize any impacts in the vicinity of the new NAC/SAC during construction. If we decide that it is prudent to relocate the stack to the original location, we will contact your office before making that change.

Please feel free to contact me if you have any questions.

Sincerely,

P. W. Holt, Environmental Manager
Alliant Techsystems Inc.

10-815-125
PHolt

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December 20, 2010

Ms. Mary Monroe
Department of Environmental Quality
West Central Regional Office
3019 Peters Creek Road
Roanoke, Virginia 24019

Subject: Malfunction of SCR Process at Radford Army Ammunition Plant

Dear Ms. Monroe:

This is in follow-up to the incident involving a malfunction of the Selective Catalytic Reduction (SCR) process that occurred at the Radford Army Ammunition Plant (RFAAP) that was reported to you on December 10, 2010. Below is a description of the incidents.

The SCR process is used to control emissions of nitrogen oxides (NOx) from the nitration portion of the nitrocellulose (NC) manufacturing process using ammonia as a reactant. At approximately 6:00 AM on December 9, 2010, the ammonia feed system for the SCR process at RFAAP failed. By approximately 6:30 AM, the nitration process was shutdown and efforts to repair the ammonia feed system were underway. Our investigation determined that the dilution stream line for the ammonia feed system had frozen due to a control valve malfunction. The frozen steam condensate in the line caused gaskets within the ammonia feed system to fail, which interrupted ammonia flow to the process. The ammonia feed system was repaired and the process was placed back into service by approximately 6:00 PM on December 9.

RFAAP's Title V permit limits maximum NOx emissions from the SCR to 125 ppmv, as an hourly average. At approximately 5:00 PM on December 9, a review of NOx monitoring data for the SCR process revealed two consecutive hourly averages had exceeded this limit. These hourly averages cover the period of 6:00 AM to 8:00 AM on December 9 when the malfunctioned occurred and the process was being taken out of service. The two calculated hourly averages were 136.4 ppmv and 134.6 ppmv.

Please feel free to call Phil Lockard (540-639-8344) if you have any questions or need additional information.

Very truly yours,

Paige Holt

Paige Holt, Environmental Manager
Alliant Techsystems Inc.

10-815-175
PELockard

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December 21, 2010

Ms. Mary Monroe
Department of Environmental Quality
West Central Regional Office
3019 Peters Creek Road
Roanoke, Virginia 24019

Subject: Excess Opacity from the Powerhouse at Radford Army Ammunition Plant

Dear Ms. Monroe:

This is in follow-up to the malfunction that occurred at the Radford Army Ammunition Plant (RFAAP) powerhouse beginning December 10, 2010. As previously reported to you, the malfunction resulted in periodic excess visible emissions the source. Below is a description of this incident.

On December 9, 2010, visible emissions from the powerhouse began to gradually increase. During the evening of December 9 and early morning of December 10, visible emissions rose above 20% opacity for limited periods of time. At approximately 7:00 AM on December 10, visible emission rose above 20% opacity and remained above that level for more than one hour. Over the next two days, visible emissions remained above 20% opacity for much of the time. Efforts to determine the cause of the problem and take corrective action continued during this period. It was determined that the elevated visible emissions were due to a failure of the ash removal system. This failure occurred as a result of the No. 11 ash hopper slide gate valve becoming stuck in the open position. This greatly reduced the vacuum used to pull ash from the system and allowed ash to build up in the electrostatic precipitators (ESP). This valve was repaired and ash was pulled from the ESPs by vacuum truck. At approximately 7:24 PM on December 12, visible emissions dropped significantly from the powerhouse to a level well below 20% opacity.

During the morning of December 13, 2010, visible emissions again began gradually rising from the powerhouse. Throughout the next three days we struggled to maintain visible emissions below 20% opacity. Several excursions above 20% occurred during this period. The ESP for the No. 5 Boiler was the suspected cause of the continued problem with visible emissions, and a number of measures were taken during this time to improve the performance of the No. 5 ESP with little effect. At approximately 12:00 PM on December 16, the No. 5 Boiler was shutdown and the ESP was allowed to cool for inspection. It was determined from this inspection that a significant amount of ash build-up still existed within this ESP as a result the failure of the No. 11 hopper slide gate valve that occurred the previous week. The ash was found to be in contact with a portion of the high voltage structure within the ESP and interfering with the proper operation of the unit. The ash was manually removed by vacuum truck on December 18. This restored the proper operation of the ESP, and the No. 5 Boiler was placed back in service at approximately 3:30 AM on December 19.

10-815-177
PE Lockard

Below is a summary of all periods in which visible emissions exceeded 20% opacity continuously for one hour or more as a result of this malfunction.

Start Time	End Time	Max. Emissions Recorded (% Opacity)	Avg. Emissions Recorded (% Opacity)
December 10 – 7:06 AM	December 10 – 8:24 AM	46.3	23.3
December 10 – 9:00 AM	December 10 – 12:24 PM	49.4	31.0
December 10 – 12:36 PM	December 11 – 12:30 AM	50.2	25.3
December 11 – 12:42 AM	December 11 – 10:36 AM	53.5	24.7
December 11 – 11:00 AM	December 11 – 12:12 PM	27.9	22.4
December 11 – 1:42 PM	December 11 – 2:42 PM	29.5	24.6
December 11 – 4:48 PM	December 11 – 7:00 PM	44.2	23.8
December 11 – 8:48 PM	December 12 – 6:30 AM	40.1	22.3
December 12 – 8:18 AM	December 12 – 11:54 AM	32.0	23.0
December 12 – 5:00 PM	December 12 – 7:18 PM	23.1	21.3
December 13 – 7:12 PM	December 13 – 8:06 PM	21.2	20.7
December 14 – 2:06 PM	December 14 – 8:30 PM	52.3	21.2
December 15 - 2:06 PM	December 15 - 3:48 PM	46.4	27.1
December 15 – 9:36 PM	December 16 – 1:06 AM	33.0	23.0
December 16 – 1:36 AM	December 16 – 3:00 AM	54.7	29.3

Please feel free to call Phil Lockard (540-639-8344) if you have any questions or need additional information.

Very truly yours,

Paige Holt, Environmental Manager
Alliant Techsystems Inc.

10-815-177
PE Lockard

ATK Armament Systems
Energetic Systems
Radford Army Ammunition Plant
Route 114, P.O. Box 1
Radford, VA 24143-0100

www.atk.com

July 7, 2010

Ms. Mary Monroe
Department of Environmental Quality
3019 Peters Creek Road
Roanoke, Virginia 24019

Subject: Excess Opacity from the Acid Tank Farm Scrubber at Radford Army Ammunition Plant

Dear Ms. Monroe:

An incident of visible emissions from 11:45 until 13:45 at the Radford Army Ammunition Plant (RFAAP) on July 2, 2010 was verbally reported to you by RFAAP on July 2, 2010. In 2009, the scrubber exhaust was re-routed to an existing stack at a higher elevation to eliminate exposures to NOx odors by construction personnel for the NACSAC project. Visible NOx emissions were observed from this exhaust after the acid tank farm scrubber blower and demister had malfunctioned.

Fumes had been backed up in the vent header due to excessive liquid acid and solids accumulation in the scrubber demister pad and had been escaping into the tank farm area as fugitive emissions. On the morning of July 2, 2010, several activities occurred in the tank farm area that generated NOx fumes. Interim modifications were made to educt these NOx fumes through the scrubber and out the exhaust stack to minimize personnel exposures. Because the blower was not in service, much less air flow was used to exhaust the NOx fumes out the stack so the opacity was increased. The solids accumulated in the demister appeared to be associated with the ongoing Tank Farm Modernization project and are not expected to be an ongoing problem. A bypass pipe around the blower was installed on July 6 so that fumes can continue to be exhausted through the scrubber even when the blower is out-of-service.

No EPA Method 9 visible emission observations were conducted during the incident; however, visible emissions intermittently exceeded 60% and consistently exceeding 20% opacity from the new exhaust point on July 2, 2010. Visible emissions from any emission source at RFAAP, except those with visible emission limitations specified in sections titled "Fuel Burning Equipment Requirements" and "Process Equipment Requirements" in RFAAP Title V permit VA-20656 dated 12/1/2003, are limited by Title V permit condition X.A.7 to "not excess 20 percent opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 60 percent opacity." The Title V permit does not include any scheduled or non-scheduled visible emission monitoring requirements for the emissions from the tanks located in this tank farm that are vented to this scrubber. All of the emission sources vented to the scrubber are storage tanks "holding or storing liquid substances that will not emit any volatile organic compound or hazardous air pollutant" so they meet the criteria for insignificant emission units as defined in DEQ regulation 9 VAC 5-80-710A.1 and 9 VAC 5-80-720A.42.

10-815-94
GDTwait

RFAAP is reporting this as excess emissions based on Title V permit general condition X.A.7 caused by a failure or malfunction of the acid tank farm scrubber and its blower. This written statement is required within 14 days of discovery by the malfunction reporting requirement in General Permit Condition XIII.F. RFAAP is complying with permit condition XIII.O.2 that requires that any "*document (including reports) required in a permit condition to be submitted to the Board shall contain a certification by a responsible official that meets the requirements of 9 VAC 5-80-80G*" with the attached certification. Please feel free to call Greg Twait (540-639-8716) if you have any questions or need additional information.

Very truly yours,

Paige Holt, Environmental Manager
Alliant Techsystems Inc.

10-815-94
GDTwait

10-815-94
GDTwait

Coordination: L. Diloia A. Miano

bc: Administrative File
P. Holt
B. Sowers
L. Diloia
G. Twait
Env File

10-815-94
GDTwait

Facility Name: *Radford Army Ammunition Plant*
Registration No. *20656*
Facility Location: *Route 114, Radford, Montgomery County, Virginia*

Type of Submittal Attached: *Title V Permit Prompt Deviation Reporting Form for Excess Visible Emissions on 7/2/10*

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

SIGNATURE:
PRINTED NAME: Kent Holliday
TITLE: Vice President and General Manager
ATK Energetics Systems

DATE: July 13, 2010

SIGNATURE:
PRINTED NAME: Antonio Munera
TITLE: LTC, US Army
Commanding

DATE: July 13, 2010

10-815-94
GDTwait

ATK Armament Systems
Energetic Systems
Radford Army Ammunition Plant
Route 114, P.O. Box 1
Radford, VA 24143-0100

www.atk.com

August 12, 2010

Ms. Mary Monroe
Department of Environmental Quality
3019 Peters Creek Road
Roanoke, Virginia 24019

Subject: Excess Opacity from the Acid Tank Farm Scrubber at Radford Army Ammunition Plant

Dear Ms. Monroe:

An incident of visible emissions at the Radford Army Ammunition Plant (RFAAP) on the afternoon of August 11 and again during the morning of August 12, 2010 was verbally reported to you by RFAAP on August 12, 2010. In 2009, the scrubber exhaust was re-routed to an existing stack at a higher elevation to eliminate exposures to NOx odors by construction personnel for the NACSAC project. Operations personnel visually inspected the acid tank farm scrubber and blower and determined that no equipment was malfunctioning during the visible emissions event. Operations personnel analyzed the effluent from the scrubber for acidity and increased the water flow rate to the scrubber based on the grab samples. Around 10:00 am on August 12, 2010, the visible emissions subsided.

No EPA Method 9 visible emission observations were conducted during the incident; however, visible emissions intermittently exceeded 20% opacity from the new exhaust point on August 11-12, 2010 during daylight hours. Visible emissions from any emission source at RFAAP, except those with visible emission limitations specified in sections titled "Fuel Burning Equipment Requirements" and "Process Equipment Requirements" in RFAAP Title V permit VA-20656 dated 12/1/2003, are limited by Title V permit condition X.A.7 to "not excess 20 percent opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 60 percent opacity." The Title V permit does not include any scheduled or non-scheduled visible emission monitoring requirements for the emissions from the tanks located in this tank farm that are vented to this scrubber. All of the emission sources vented to the scrubber are storage tanks "holding or storing liquid substances that will not emit any volatile organic compound or hazardous air pollutant" so they meet the criteria for insignificant emission units as defined in DEQ regulation 9 VAC 5-80-710A.1 and 9 VAC 5-80-720A.42.

RFAAP is reporting this as a deviation from permit requirements which may cause excess emissions for more than one hour of Title V permit general condition X.A.7. This written statement is being submitted within 14 days of discovery by the malfunction reporting requirement in General Permit Condition XIII.E. RFAAP is complying with permit condition XIII.O.2 that requires that any "*document (including reports) required in a permit condition to be submitted to the Board shall contain a certification by a responsible official that meets the requirements of 9 VAC 5-80-80G*" with the attached certification. Please feel free to call Greg Twait (540-639-8716) if you have any questions or need additional information.

Very truly yours,

Paige M. Holt

Paige Holt, Environmental Manager
Alliant Techsystems Inc.

10-815-116
GDTwait

Coordination:

L. Diloia

A. Miano

bc: Administrative File
P. Holt
B. Sowers
M. Harman
L. Diloia
G. Twait
Env File

10-815-116
GDTwait

Facility Name: *Radford Army Ammunition Plant*
Registration No. *20656*
Facility Location: *Route 114, Radford, Montgomery County, Virginia*

Type of Submittal Attached: *Title V Permit Prompt Deviation Reporting Form for Excess Visible Emissions on 8/11-12/10*

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

SIGNATURE: [signature]
PRINTED NAME: Kent Holiday
TITLE: Vice President and General Manager
ATK Energetics Systems

DATE: August 23, 2010

SIGNATURE: [signature]
PRINTED NAME: Antonio Munera
TITLE: LTC, US Army
Commanding

DATE: 24 Aug 2010

10-815-116
GDTwait

Radford Army Ammunition Plant
May 16 to 20, 2011

Attachment CAA-3: Summary of Visible Emissions Exceedances for Powerhouse Boilers in 2011 through May 25

Multi-Media Inspection Report

Radford Army Ammunition Plant
May 16 to 20, 2011

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Powerhouse Visible Emissions Summary										
		Unit								
Date	Start Time	#1	#2	#3	#4	#5	Description of Deviation and Root Cause	Duration	Maximum 6-minute average measured (% Opacity)	Immediate Response and Corrective Action
1/2/2011	1:54 AM		X	X		X	Soot-blowing	18 min.	26.4	Followed SOP
1/3/2011	6:12 PM		X	X		X	Cleaning Boilers 2, 3 and 5	18 min.	71.7	Followed SOP
1/3/2011	11:12 PM				X		Startup Boiler 4	12 min.	28.6	Followed SOP
1/4/2011	2:00 AM				X		Startup Boiler 4	18 min.	67.2	Followed SOP
1/5/2011	7:00 PM					X	Coal feeder failure	30 min.	77.1	Followed SOP
1/11/2011	1:24 AM		X	X	X	X	Soot-blowing	12 min.	34.2	Followed SOP
1/11/2011	6:18 AM		X	X	X	X	Unkown cause	12 min.	40.9	Followed SOP
1/11/2011	8:30 PM		X				Shut down Boiler 2	24 min.	51.1	Followed SOP
1/12/2011	12:24 PM			X			Cleaned 3A Pulverizer	12 min.	26.3	Followed SOP
1/15/2011	2:06 AM		X			X	Soot-blowing	18 min.	21.1	Followed SOP
1/16/2011	2:12 AM		X	X	X	X	Soot-blowing	18 min.	34.3	Followed SOP
1/17/2011	2:18 AM		X	X	X	X	Soot-blowing	18 min.	31.8	Followed SOP
1/17/2011	6:12 PM		X	X	X	X	Soot-blowing	12 min.	28.1	Followed SOP
1/18/2011	6:18 PM		X	X	X	X	Soot-blowing	18 min.	40.4	Followed SOP
1/19/2011	6:00 PM		X	X	X	X	Soot-blowing	18 min.	22.7	Followed SOP
1/21/2011	8:18 AM					X	Shut down Boiler 5	24 min.	73.4	Followed SOP
1/21/2011	11:06 AM		X	X	X	X	Cleaning Boilers 2, 3, 4 and 5	24 min.	52.5	Followed SOP
1/21/2011	1:18 PM		X	X	X	X	Testing No.2 T/G with Boilers 2, 3, 4 and 5	12 min.	26.2	Followed SOP
1/27/2011	12:00 AM			X			Coal feeder failure	12 min.	74.4	Acitvated chute vibrators and used fuel oil to support combustion
1/29/2011	1:00 AM		X				Coal feeder failure	24 min.	45.4	Followed SOP
1/31/2011	5:48 PM		X				Coal feeder failure	30 min.	78.7	Followed SOP
2/3/2011	9:42 AM			X			Coal feeder failure	12 min.	43.5	Followed SOP
2/4/2011	5:54 AM					X	Coal feeder failure	180 min.	37.7	Cleaned and inspected No. 5 pulverizers and used fuel oil to fire boiler. DEQ notified.
2/4/2011	6:06 PM		X	X	X	X	Soot-blowing	18 min.	28.2	Followed SOP
2/5/2011	2:18 AM		X	X	X	X	Soot-blowing	18 min.	24.1	Followed SOP
2/5/2011	4:00 PM		X	X	X	X	Soot-blowing	42 min.	38.4	Followed SOP
2/7/2011	2:06 AM		X	X	X	X	Soot-blowing	18 min.	27.4	Followed SOP
2/7/2011	6:18 PM		X	X	X	X	Soot-blowing	18 min.	43.9	Followed SOP
2/8/2011	2:18 AM		X	X	X	X	Soot-blowing	18 min.	40.4	Followed SOP
2/9/2011	2:30 AM		X	X	X	X	Soot-blowing	12 min.	21.5	Followed SOP
2/10/2011	1:24 AM					X	Failure of No. 5 ESP B Field	108 min.	36.9	No. 5 ESP wires were cleaned. DEQ Notified
2/10/2011	5:06 AM					X	Failure of No. 5 ESP B Field	204 min.	38.9	No. 5 ESP wires were cleaned. DEQ Notified
2/10/2011	12:42 PM					X	Failure of No. 5 ESP B Field	24 min.	34.6	No. 5 ESP wires were cleaned. DEQ Notified
2/10/2011	2:18 PM					X	Failure of No. 5 ESP B Field	36 min	25.8	No. 5 ESP wires were cleaned. DEQ Notified
2/10/2011	6:00 PM					X	Shut down Boiler 5	12 min.	49.0	Followed SOP
2/10/2011	9:12 PM		X	X	X		Increase in steam demand	18 min.	31.0	Fuel oil used to maintain pressure
2/11/2011	1:06 PM			X			Boiler 3 burner fire	24 min.	39.7	Shutdown pulverizer and cleaned accumulated coal and clinkers per SOP
2/12/2011	8:48 AM		X	X	X		Increase in steam demand	24 min.	82.7	Fuel oil used to maintain pressure
2/12/2011	5:54 PM		X	X	X		Increase in steam demand	18 min.	42.0	Followed SOP
2/15/2011	10:00 AM				X		Shut down Boiler 4	18 min.	37.7	Followed SOP
2/16/2011	6:00 PM		X	X		X	Soot-blowing	12 min.	25.0	Followed SOP

Powerhouse Visible Emissions Summary										
		Unit								
Date	Start Time	#1	#2	#3	#4	#5	Description of Deviation and Root Cause	Duration	Maximum 6-minute average measured (% Opacity)	Immediate Response and Corrective Action
2/17/2011	3:30 AM					X	Boiler No 5 ash slide Gate # 32 solenoid valve failed resulting in excess buildup in ash hoppers	108 min.	26.7	Repaired gate valve. Removed ash from hoppers per SOP. DEQ notified
2/17/2011	8:12 AM					X	Boiler No 5 ash slide Gate # 32 solenoid valve failed resulting in excess buildup in ash hoppers	54 min.	44.0	Repaired gate valve. Removed ash from hoppers per SOP. DEQ notified
2/17/2011	10:54 AM					X	Boiler No 5 ash slide Gate # 32 solenoid valve failed resulting in excess buildup in ash hoppers	78 min.	42.3	Repaired gate valve. Removed ash from hoppers per SOP. DEQ notified
2/17/2011	3:36 PM					X	Boiler No 5 ash slide Gate # 32 solenoid valve failed resulting in excess buildup in ash hoppers	156 min.	70.4	Repaired gate valve. Removed ash from hoppers per SOP. DEQ notified
2/18/2011	6:00 PM		X	X		X	Soot-blowing	18 min.	23.3	Followed SOP
2/20/2011	12:18 AM				X		Startup Boiler 4	42 min.	30.7	Followed SOP
2/20/2011	10:00 PM					X	Failure of Boiler 5 ID fan bearing	6 min.	61.0	Boiler 5 shut down and secured per SOP
2/22/2011	7:06 AM				X		4A pulverizer scraper failed. Used fuel oil to support header pressure.	36 min.	85.3	Replaced scraper
2/24/2011	11:18 AM		X	X	X		Celaning burner and adjusting air flow on Boilers 2, 3 and 4	36 min.	51.8	Followed SOP
2/26/2011	1:00 AM			X			Coal feeder failure	18 min.	65	Followed SOP
2/28/2011	7:48 PM			X			Coal feeder failure	18 min.	59.6	Followed SOP
3/5/2011	9:30 AM					X	Shut down Boiler 5	12 min.	43	Followed SOP
3/14/2011	4:54 PM				X		Startup Boiler 4	18 min.	68.8	Followed SOP
3/14/2011	6:30 PM				X		Startup Boiler 4	12 min.	34.3	Followed SOP
3/15/2011	11:18 AM			X	X	X	Performing boiler air tests	18 min.	41.5	Adjusted air per SOP
3/16/2011	12:42 AM				X		Opacity spike on Boiler 4	18 min.	54.6	Adjusted boiler load per SOP
3/28/2011	11:48 PM					X	Cleaning No. 5 Boiler Burner rings top	24 min.	24.4	Removed stoop build up from east top burner plugging burner throat
4/6/2011	2:12 AM		X	X	X	X	Boiler 5 upper east burner stopped up. Took 5B Mill off line to be able to remove blockage. Used fuel oil to support pressure.	18 min.	48.1	Followed SOP
4/6/2011	1:54 PM						Soot-blowing	18 min.	26	Followed SOP
4/11/2011	5:30 PM			X	X	X	Soot-blowing	12 min.	29.9	Followed SOP
4/19/2011	2:00 AM			X	X	X	Preparing to clean boilers and blow soot	12 min.	34.5	Inserted oil guns and adjusted air per SOP
4/21/2011	2:24 PM			X	X	X	Soot-blowing	12 min.	29.6	Followed SOP
5/6/2011	4:42 AM			X	X	X	Increase in steam demand, feeder over feed	12 min.	23.7	Rebalanced air and fuel between boilers per SOP
5/9/2011	8:48 AM				X		Start up of B Mill on Boiler 4 due to load increase	12 min.	30.4	Followed SOP
5/15/2011	1:24 AM				X		Start up of Boiler 4 fans to cool boiler down for annual maintenance	12 min.	28.6	Energized ESP cabinets per SOP
5/16/2011	6:54 PM		X				No. 2A coal feeder failed	12 min.	39.4	Relit boiler with fuel oil guns and restarted 2A Feeder

Attachment CAA-4: February 2011 Notice Of Powerhouse Boilers Excess Opacity Incidents, March 2011 VADEQ Warning Letter, and April 2011 RFAAP Response Letter

Multi-Media Inspection Report

Radford Army Ammunition Plant
May 16 to 20, 2011

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ATK Armament Systems
Energetic Systems
Radford Army Ammunition Plant
Route 114, P.O. Box 1
Radford, VA 24143-0100

www.atk.com

February 18, 2011

Ms. Mary Monroe
Department of Environmental Quality
West Central Regional Office
3019 Peters Creek Road
Roanoke, Virginia 24019

Subject: Excess Opacity from the Powerhouse at Radford Army Ammunition Plant

Dear Ms. Monroe:

This is in follow-up to the visible emissions excursion that occurred at the Radford Army Ammunition Plant (RFAAP) powerhouse on February 4, 2011. Below is a description of this incident.

During the morning of February 4, 2011, visible emissions from the powerhouse began to gradually increase. At approximately 6:00 AM, visible emissions rose above 20% opacity. Efforts to determine the cause of the problem and take corrective action were initiated. It was determined that the elevated visible emissions were related to the coal feed system in the Number 5 boiler. Fuel oil feed was initiated to allow operators to clean and examine the coal grind and feed equipment. The pulverizers were cleaned, inspected and returned to service, but opacity remained elevated. A fuel oil gun that was being used to supplement combustion while inspecting and cleaning the No. 5 pulverizers was determined to be faulty. This fuel oil gun was replaced and visible emissions from the powerhouse began to decrease. At approximately 9:42 AM on February 4, visible emission fell consistently below 20% opacity.

Visible emissions were above and below 20% opacity during the course of this incident. They were above 20% continuously from approximately 7:30 AM until approximately 8:30 AM. During this period, the maximum recorded opacity was 37.7% and the average recorded opacity was 29.5%.

Additional opacity excursions have occurred on February 10 and 17. In those cases, similar actions were taken to identify potential issues with the coal handling system, and fuel oil was burned to help sustain combustion. On February 10, operators worked throughout the day to identify the issue; when no immediate cause was identified, the boiler was shut down for inspection. It was found that the wires in the B field of the electrostatic precipitator were coated with material which was not allowing them to operate properly. The wires were cleaned and the boiler was returned to operation. However, opacity again exceeded 20% for more than an hour during two instances on February 17. Following the early morning excursion, additional inspections identified that the top soot valves for Boiler #5 were not operating properly. The solenoid valve was replaced, top soot removed. It is not known whether these valves also contributed to the earlier opacity excursions.

11-815-31
PE Lockard

Last night at approximately 7 PM, another excursion occurred. Foreman and powerhouse operators identified that the flame from lower East burner was not burning properly on Boiler #3. Coal feed to the lower burners was stopped and oil was used to support the steam demand. The burner was found to be clogged with coal and was cleaned and returned to service. We are continuing to investigate the reason for this issue and will send an updated letter once more information is available.

Please feel free to call Phil Lockard (540-639-8344) if you have any questions or need additional information.

Sincerely,

Paige Holt, Environmental Manager
Alliant Techsystems Inc.

11-815-31
PE Lockard

received 3/21/11

11-23

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY
Blue Ridge Regional Office
www.deq.virginia.gov

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Secretary of Natural Resources

David K. Paylor
Director

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Roanoke, Virginia 24019
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Fax (540) 562-6725

March 16, 2011

Ms. Paige Holt
Environmental Manager
Alliant Techsystems, Inc.
Radford Army Ammunition Plant
Route 114 PO Box 1
Radford, VA 24143

Lt. Colonel Antonio Munera
United States Army, Commanding
Radford Army Ammunition Plant
Route 114 PO Box 1
Radford, VA 24143

RE: Alliant Techsystems, Inc./Radford Army Ammunition Plant
Registration No. 20656
Warning Letter - AWCRO #7900

WARNING LETTER

Dear Ms. Holt and Lt. Colonel Munera:

The Department of Environmental Quality ("DEQ" or "the Department") has reason to believe that the Radford Army Ammunition Plant (RFAAP) may be in violation of the Air Pollution Control Law and Regulations.

This letter addresses conditions at the facility named above, and also cites compliance requirements of the Air Pollution Control Law and Regulations. Pursuant to Va. Code § 10.1-1309(A)(vi), this letter is not a case decision under the Virginia Administrative Process Act, Va. Code § 2.2-4000 *et seq.* The Department requests that you respond **within 20 days of the date of this letter.**

OBSERVATIONS AND LEGAL REQUIREMENTS

On March 16, 2011, DEQ staff conducted a Partial Compliance Evaluation of the facility records submitted by Alliant Techsystems, Inc. The submittal included the Title V Semi-annual Monitoring Report. The report was received by the Department on February 28, 2011 and covered the time period of July 1, 2010 through December 31, 2010. The following describes the staff's factual observations and identifies the applicable legal requirements:

Observations: The Title V Semi-annual Monitoring Report included the following attachment: "Plant-wide Summary of Deviations". The summary report included opacity exceedances for Boiler Nos. 2, 3, 4, and 5. The report indicates that on several days during the semi-annual period, visible emissions exceeded 20% opacity for more than one six-minute period in an hour. In addition, on several days, visible emissions exceeded 60% opacity during one six-minute period.

Legal Requirements: Condition III.A.5. of the January 15, 2004 Title V Permit states: Visible emissions from each of the boiler stacks shall not exceed 20 percent opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 60 percent opacity (9 VAC 5-40-80, 9 VAC 5-40-940 and 9 VAC 5-80-110).

Legal Requirements: Va. Code § 10.1-1307.3(B) states: The Executive Director or his duly authorized representative may pursue enforcement action for a violation of opacity requirements or limits based on (i) visual observations conducted pursuant to methods approved by the U. S. Environmental Protection Agency, (ii) data from certified continuous opacity monitors, or (iii) other methods approved by the U. S. Environmental Protection Agency.

ENFORCEMENT AUTHORITY

Va. Code § 10.1-1316 of the Air Pollution Control Law provides for an injunction for any violation of the Air Pollution Control Law, the Air Board Regulations, an order, or permit condition, and provides for a civil penalty up to $32,500 per day of each violation of the Air Pollution Control Law, regulation, order, or permit condition.

In addition, Va. Code §§ 10.1-1307 and 10.1-1309 authorizes the Air Pollution Control Board to issue orders to any person to comply with the Air Pollution Control Law and Regulations, including the imposition of a civil penalty for violations of up to $100,000. Also, Va. Code § 10.1-1186 authorizes the Director of DEQ to issue special orders to any person to comply with the Air Pollution Control Law and Regulations, and to impose a civil penalty of not more than $10,000. Va Code §§ 10.1-1320 and 10.1-1309 provide for other additional penalties.

FUTURE ACTIONS

After reviewing this letter, please respond in writing to DEQ within **20 days of the date of this letter** detailing actions you have taken or will be taking to ensure compliance with state law and regulations. If corrective action will take longer than 90 days to complete, you may be asked to sign a Letter of Agreement or enter into a Consent Order with the Department to formalize the plan and schedule. It is DEQ policy that appropriate, timely corrective action undertaken in response to a Warning Letter will avoid adversarial enforcement proceedings and the assessment of civil charges or penalties.

Please advise us if you dispute any of the observations recited herein or if there is other information of which DEQ should be aware. In the event that discussions with staff do not lead to a satisfactory conclusion concerning the contents of this letter, you may elect to participate in DEQ's Process for Early Dispute Resolution. If you complete the Process for Early Dispute Resolution and are not satisfied with the resolution, you may request in writing that DEQ take all necessary steps to issue a case decision where appropriate. For further information on the Process for Early Dispute Resolution, please visit the Department's website under "Laws & Regulations" and "DEQ Regulations at: http://www.deq.virginia.gov/regulations/pdf/Process_for_Early_Dispute_Resolution_8260532.pdfhttp://www.deq.virginia/ or ask the DEQ contact listed below.

Your contact at DEQ in this matter is Mary Monroe, Air Compliance Engineer, in the Blue Ridge Regional - Roanoke Office. Please direct written materials to her attention. If you have questions or wish to arrange a meeting, you may reach her directly at 540-562-6850 or Mary.Monroe at@deq.virginia.gov.

Sincerely,

Frank Adams

Frank H. Adams
Air Compliance Manager

cc: Alliant Techsystems, Inc. - Enforcement File
Mary Monroe - DEQ

ATK Armament Systems
Energetic Systems
Radford Army Ammunition Plant
Route 114, P.O. Box 1
Radford, VA 24143-0100

www.atk.com

April 6, 2011

Mr. Frank Adams
Department of Environmental Quality
West Central Regional Office
3019 Peters Creek Road
Roanoke, Virginia 24019

Subject: Warning Letter Dated March 16, 2011

Dear Ms. Monroe:

This is in response to the Warning Letter dated March 16, 2011 issued to the Radford Army Ammunition Plant (RFAAP) addressing incidents of excess opacity reported in the facility's Semi-annual Monitoring Report for the second half of calendar year 2010. Below is a discussion of these incidents and actions to be taken in response.

During the month of December 2010, No. 5 Boiler was down for maintenance. Due to low temperature experienced during this time of year, there was a high steam load during this period. While operating under such conditions, opacity excursions can occur as a result of swings in steam load. Two such incidents occurred on December 2 and December 17, 2010 when steam load unexpectedly increased. Both of these incidents resulted in sharp spikes in visible emissions but were fairly short lived (less than one hour).

Over the past three years, we have made substantial improvements in meeting the visible emission limits at RFAAP's coal-fired powerhouse, and we are continuing to look for opportunities to improve further. This includes the development of best work practices that help minimize excess visible emissions that occur from the operation of the facility. We have also added coal weigh feeders to be able to monitor the mass of coal fed to each boiler, resectionalized the ESP fields to improve collection efficiency, and added opacity meters at each boiler to be able to identify which boiler is causing an issue. We are currently working with a consultant to identify elements of the boilers that could be causing inadequate coal combustion. These efforts are designed to reduce the loading of particulate matter to the ESPs and improve the collection efficiency so that we are able to anticipate and react to change in steam load without generating excess visible emissions.

As a result of this and other incidences, we are also evaluating the possibility of increasing the frequency of soot blowing to minimize particulate that is dislodged at any given time.

Please feel free to call Phil Lockard (540-639-8344) if you have any questions or need additional information.

Very truly yours,

Paige Holt

Paige Holt, Environmental Manager
Alliant Techsystems Inc.

11-815-54
PE ockard

Attachment CAA-5: List of ACR Units with Greater Than 50 Pounds of Refrigerants Provided During Inspection

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AREA	BUILDING	RFA#	MAKE	TYPE	MODEL	SERIAL	TYPE	AMOUNT IN LBS.
~~GRUCCI~~	7803	15308	TRANE	A/C	RA-3004-1	621638B81-7596	R-22	75
~~GRUCCI~~	7801	135602	TRANE	A/C	RA-3004-A	621-636-A-132160	R-22	92
~~GRUCCI~~	7808	13720	TRANE	A/C	5H80-149	00F70800FC	R-22	125
BLDG 220	220	28240	YORK	CHILLER	YTG3A3C1-CJH	GHGM056592	R-123	900
ALTESS	450	NA	YORK	CHILLER	YTG0A1B1-CFJ	GLKM161365	R-123	1650
ALTESS	450	NA	YORK	CHILLER	YTG0A1B1-CFJ	GLKM161366	R-123	1650
C-LINE	3508	NA	YORK	ICE FLAKE MACHINE	NOT FOUND	NOT FOUND	R-22	125
C-LINE	3502	28569	TRANE	CHILLER	CVHF049FA1W0PC2867Q9D7TBC00000070A1004000000001B1	L02C04853	R-123	890
CHEM LAB	201	28689	YORK	PACKAGE A/C	Y24FC04AIGNC1	N0G5503847	R-22	62 LB 5 OZ
~~NRE~~	1601G	NA	TRANE	CHILLER	RTAA0704XN01A-3D0BC	NA	R-22	116
~~NRE~~	1601	NA	YORK	CHILLER	YCAL0061EC46XDBSDTX	2FTM000903	R-22	120
~~NRE~~	1601	NA	YORK	CHILLER	YCAL0061EC46XDBSDTX	2FTM000902	R-22	120
~~NRE~~	1601	24270	TRANE	CHILLER	CGAA0504RC51CD5A4B361EFLRB	L80K18364	R-22	91
~~MED GAL LAB LINE~~		NA	TRANE	A/C	RAUCC504BD13DB29	J19G64008	R-22	140
~~CHEM LAB~~ NRE	224-3	24358	TRANE	CHILLER	CGAA0504RC51CD5A4B361EFLR8	L80K18362	R-22	92
ROCKET AREA	4912-1	28541	MCQUA	CONDENSOR	ALP032C	57H8500701	R-22	65
ROCKET AREA	4912-3	23756	TRANE	CONDENSOR	RAUBC404AB00BFS	B81K04601	R-22	78
ROCKET AREA	4912-4	27572	TRANE	CONDENSOR	RAUC204PD13D	J91D63760	R-22	61
ROCKET AREA	4912-7	27570	TRANE	CONDENSOR	RAUCC254BD13D	J91E63800	R-22	80
ROCKET AREA	4912-15	23826	TRANE	CONDENSOR	RAUBC304AB00BFS	B81K04600	R-22	60
ROCKET AREA	4912-17	28365	TRANE	CONDENSOR	RAUCC304T13AB0000000	C99A07764	R-22	90
ROCKET AREA	4912-13	23632	TRANE	CONDENSOR	RAUBC204AB00BFS	B81K04598	R-22	60
ROCKET AREA	4924-6	24456	TRANE	CHILLER	CGAA0504RC51CD5A4B361EFLRB	L80K18369	R-22	92
ROCKET AREA	4925	26200	TRANE	CONDENSOR	RAUBC604BE03AB	J88F81377	R-22	120

Red Cross-at = Commercial Properties

Attachment CAA-6: Questions and Responses from RFAAP on Discrepancies in Contractor ACR Service Records

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QUESTIONS AND NOTES ON REVIEW OF RFAAP ACR SERVICE RECORDS FROM JOHNSON CONTROLS AND COMFORT SYSTEMS

1. Records for the Metrology chiller units for 2010 showed multiple additions of large quantities of R-22. Please confirm the capacities of refrigerants in the units and check on the last serial number since it may have been incorrect and actually one of the other two units. Also, did any of the repairs of leaks occur 30 days after the leak was first identified?

   Serial Number N99D02693M, 225 pound capacity of R-22: 5/19 - 150 lbs.; 5/22 – 180 lbs.; 7/9 – 30 lbs.; Total =360 lbs.

   Serial Number N99L08578M, 225 pound capacity of R-22: 4/14 - 52 lbs.; 5/4 – 60 lbs.; 5/12 – 90 lbs.; 5/24 – 30 lbs.; 5/27 – 60 lbs.; 10/14 – 180 lbs.; 10/22 – 210 lbs.; Total = 682 lbs.

   Serial Number U000471-071, unknown capacity of R-22: 7/1 – 120 lbs.; 7/10 – 30 lbs.; Total = 150 lbs.

   These chillers were removed from service in March, 2011 and are being replaced. Information pertaining to the repair of the old metrology chiller units is being clarified and will be forwarded to you in a separate document.

2. There were Johnson Controls service records for Bldgs. #5010 (1/20/10) and #4912-22 (9/22 year not identified) with additions of R-22 greater than 50 lbs., and the Johnson Controls service records for Bldg. 4327-4 (5/26/10) showed the charge for the unit was 60 lbs. and Bldg. 4924-5 (many dates in May 2010) showed the charge for the unit was 100 lbs, but these units were not on the list of units with greater than 50 lbs. of regulated refrigerants. Please explain these discrepancies. Bldg-4912-22 and 4924-5 will be added to the list of units with $\geq$ 50 lb charge; these were inadvertently left off the list due to miscommunication. To the JC (Johnson Controls) technician's knowledge, the unit at B-5010 (comfort cooling) was to be moth balled by ATK refrigeration technicians, therefore it was not put on the list. Bldg- 4327-4 does not have a charge greater than 50 lbs. This equipment has no nameplate, there is no information on it in the Government Based Files (GBF's) and no purchasing records. Based on technician's experience, the unit (chiller) charge is closer to 30 lbs. Don Bolden can provide more information if you have further questions about the unit at B-4327-4. Please let us know if you would like to talk with him and we will schedule a conference call.

3. There was a Johnson Controls service record for an unknown building, but the PO # showed "WH #9533", dated 4/6 with no year, and it indicated 49 lbs. of R-22 was added to the unit which had a charge of 65 lbs. Please identify the building and verify it is on the list of units with greater than 50 lbs. of regulated refrigerants. This is at Bldg # B-1601; the technician did not have the Bldg # on the service record. This chiller is on the equipment list. Unit charge is 120 lbs total. The 30 day follow up passed. Technician error in indicating 65lb charge on the service record.

4. Johnson Controls service records for Bldg. 3508 showed the following additions of R-22 in 2010: 3/26 – 30 lbs.; 7/20 – 54 lbs.; 8/2 – 45 lbs; Total = 129 lbs. Did any of the repairs of leaks occur 30 days after the leak was first identified? At B-3508, Mr. Bolden found the process chiller not running and low on refrigerant but the mixed house was running so he could not take the chiller down (Explosives were in the building so unit could not be taken out of service for repair). Refrigerant additions were made, they did make a repair but no verifications were conducted.

We see no record of an R-22 addition of 30 lbs on 3-26-10, please scan and email us what you are referring to.

5. There were numerous Johnson Controls servicing calls and additions of R-22 for a unit at Bldg. 4912-7 in June and July 2010, but the unit serial number did not match the building number in the list of units with greater than 50 lbs. of regulated refrigerants (the serial number was for 4912-13). Furthermore, the charge was shown as 60 lbs., but the unit in the list of units contains 90 lbs. Please explain these discrepancies. The additions of R-22 included 7/2/10 – 60 lbs. and 7/9/10 – 60 lbs. Did any of the repairs of leaks occur 30 days after the leak was first identified? Finally, please check the leak rates shown in the records to ensure they are accurate. Are you referring to B-4912-17? Our records indicate 2 additions of 60lbs on the following dates: July 2nd and July 9th 2010. If this is the case the serial number you are referring to was original equipment for the building. The condensing unit was swapped with the condensing unit at 4912-2 after both compressor units burned out. Refrigerant and oil were recovered. The serial # listed on the 50 lb charge list is for the condensing unit that came from 4912-2. The original unit is no longer in service. The leaks were repaired. Please refer to page 4 of 8, see activity #'s 1-J8949A and 1-J894BC to show that leak identified on July 2nd was repaired on July 7th 2010. Mr. Bolden can explain to you how their NX-GEN software calculates leak rates if that would be helpful.

6. There were numerous Johnson Controls servicing calls and additions of R-22 for a unit at either Bldg. 4912-1 or 4912-7, in April 2010 and on 1/20, 2/22, 8/7, and 9/3 (no year was shown, but I assume it was 2010), but the unit serial number did not match up to the list of units for some of the service records. Please identify which buildings these service records applied to and confirm the year. The additions of R-22 included 1/20 – 30 lbs., 2/22 – 56 lbs.; 4/12 – 28 lbs.; 8/7 – 20 lbs.; 9/3 – 62 lbs.; Total = 168 lbs. Did any of the repairs of leaks occur 30 days after the leak was first identified? The call on 1/20/10 was a condenser coil leak at B-4912-7. The leak was not repaired within 30 days of discovery due to the coil having to be ordered from supplier. This coil was replaced and verification test conducted. The model and serial #s indicated on the ticket were from the replacement coil and not the unit. The other additions of refrigerant were due to compressor replacements.

   The addition on 2/22/10 was due to a compressor failure. Unit passed initial leak verification test (Reference service ticket # 632-101-9248).

   The addition of 28lbs on 4/12/2010 was for B-4912-7; JC Inc. records indicate it was for 4912-1 which was a mistake. This is demonstrated by activity # 1-AWBY90 which has a matching serial # for unit at B-4912-7. On 4-6-10, the unit was found to be out of refrigerant. It was leak tested and no leaks were found. JC Inc. was unable to determine why it lost refrigerant.

   The addition of 20 lbs on 8/7/10 was due to a compressor replacement at B-4912-7.

   The addition on 9/3/10 was for 4912-1 and 4912-7. The three separate additions totaling 62 lbs on 9/3/10 were due to compressor replacements and units passed initial verification (Ref # 632-1016985). The 1st two additions were for the compressor replacement at B-4912-1. The 15 lb addition was for the compressor replacement at B4912-7.

Attachment CAA-7: Emails from RFAAP and Comfort Systems on Metrology ACR Units

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Radford Army Ammunition Plant
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From: [redacted]
Sent: Tuesday, June 21, 2011 4:00 PM
To: 'Michael Prescott '
Cc: [redacted]
Subject: ACR Update

Michael:
Attached is an email from Comfort Systems, who services the refrigeration units at the metrology building. [redacted] has gone back through their individual records and forwarded the attached activity summary, along with specific repair records. He has added notes on green stickers to help explain what was done. Additional records will be forwarded in two more emails, as the files are too large to attach here. As far as we know, these files are a complete summary of the work performed on these units. Please let us know if you have further questions after reviewing this information and we will set up a conference call with Comfort Systems.

As we have discussed, these units were removed from service in the spring. A temporary unit is currently in place, with new units to be operational this summer. In addition, ATK has taken additional actions to address the shortcomings identified during your inspection. We have updated our purchase orders with refrigeration repair companies to specifically require immediate submittal of a copy of the refrigeration repair records. We have also initiated an onsite computerized system to track refrigerant use and refrigeration equipment repairs. In addition to maintaining records of in-house maintenance, we will also be tracking work performed by outside contractors with this new system. All refrigeration contractors are now required to provide detailed information on all work performed on the day it is performed using a new form developed for this purpose. A copy of this form (see attached) has been provided to all refrigeration contractors, and they are now the required to use this form under the conditions of the newly updated purchase orders. As you can see, this form is designed to capture all critical elements of the requirements. Information from this form will placed into our computerized tracking system. With the acquisition of our own refrigeration technicians, we will improve oversight of contractor technicians. In fact, those employees have taken the initiative to review all submitted forms to ensure that the regulations are being followed properly.

In addition to actions taken by RFAAP, Comfort Systems has also initiated changes to their recordkeeping and refrigeration management systems. Additional information about those changes can be provided by Comfort Systems if you would like.

We have included the revised list of refrigeration units over 50 lb capacity. Please recognize that the intent of this list is to continue to add smaller units and confirm data as units are serviced. Again, if you have any questions about it, please let us know.

Thank you again for your patience as this information was compiled.

[redacted]

COMFORT SYSTEMS USA

Quality People. Building Solutions.

June 16, 2011

ATK Metrology Lab Chiller

3/8/2010
Chiller #2 – Found unit off on oil pressure, reset. Added Refrigerant (R22) which returned oil to the system. Chiller #2 Compressor N99L08578M added 45 lbs R-22

3/18/2010
Chiller #2 – Found the AHU's off and the Water Pumps off. Reset and chiller started but center of lab stayed warm and humid. Opened two fire dampers to allow air flow. Chiller#2, added 30 lbs R-22

3/19/2010
Chiller #2 – Checked chiller, operating and water temp is 30 Deg F

3/23/2010
Chiller #2 – Replaced the fire links for the fire dampers, provided by customer

4/14/2010
Chiller #2
Found leak on Condenser Coil and oil pump cover, repaired and noted that Condenser Coil needs cleaning. Chiller #2 Compressor N99L08578M added 52 lbs R-22

4/19/2010
Chiller #2
Checked chiller for proper operation, found that there is small leak but not necessary to add Refrigerant at this time.

5/4/2010
Chiller #1
Cleared lockout on CWP#1 after installing pump guard. Aligned and started Chiller #1, added make up water and bleed air from system. Chiller low on charge. Recommend leak check and clean condenser coil. Chiller #1 Compressor N99D0263M added 60 lbs R-22. Placed Chiller #1 online to allow for repairs to Chiller #2.

Comfort Systems USA (Roanoke & New River Valley) - 106 St. John Rd - Salem, Virginia 24153
Phone: 540-387-2081 - Fax: 540-387-2098

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5/5 – 5/7/2010
Chiller #2
Cleaned Condenser Coils and the area around the coils where unit is leaking.
Picked up recovery cylinders and Nitrogen to start recovery of refrigerant,
Completed recovery and charged with Nitrogen. Repaired leaks on the condenser coil and replaced the oil pump o-ring.

5/11/2010
Chiller #2
Placed chiller under vacuum and evacuated to 400 microns, verified that circuit passed Standing Leak test.
Chiller #1
Started recovery of Refrigerant from Chiller.

5/17 – 5/21/2010
Chiller #1
Repaired leak on chiller and evacuated system to 200 microns, after one hour system rose to 380 microns. Proceeded to check system components and located leak on the TXV, repaired leak on the TXV and evacuated system. Passed Standing Leak test, charged with recovered Refrigerant. Started and placed on line.

5/24 – 5/28/2010
Chiller #2
Recovered the refrigerant from Chiller #2, started on vacuum pump for evacuation.
Completed evacuation of Chiller #2 and charged with recovered refrigerant. Start and verify operation of Chiller #2. Shut down Chiller #1.

6/14 – 6/18/2010
Chiller #2
Shutdown to check chiller for possible Non Condensable in the system. Added fittings and replaced the drier cores. Check for leaks.

6/21 – 6/22/2010
Chiller #2
Charged the chiller with recovered refrigerant, started chiller and verified operating properly. Checked lab temps and humidity.

Comfort Systems USA (Roanoke & New River Valley) - 106 St. John Rd - Salem, Virginia 24153
Phone: 540-387-2081 - Fax: 540-387-2098

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7/6 - 7/9/2010
Chiller #2
Chiller dropped off line due to low oil pressure resulting from loss of steam to building.
Chiller lost portion of charge due to leak from vibration (stress crack in line).
Stopped Chiller and started Recovery of refrigerant
Recv'd parts for Chiller #2, installed new TXV and Anti –Vibration coupling. Evacuated system
Added 30 lbs R-22 to system in addition to the recovered refrigerant placed back in the circuit.

9/21/2010
Chiller #2
Leak check for Condenser, requires pulling the refrigerant to pressurize with Nitrogen. Oil evident at possible leak location.

9/27 – 9/28/2010
Chiller #2
Recovered refrigerant from Chiller to allow for leak testing.
After charging with Nitrogen found that there was leak on the Condenser Coil, repaired leak. Placed the system under Nitrogen Charge for Standing Leak test. System lost pressure over night, found leak on the Liquid Line Solenoid valve, will replace both valves.

10/5/2010
Chiller #2
Installed new Liquid Line Solenoid valves, charged with Nitrogen for leak check and found leak on brazed joint. Repaired leak and again charged for leak check.

10/6/2010
Chiller #2
Pressure from leak check dropped indicating another leak, fund the Receiver sight glass and High temp Relief leaking. Replaced and pressurized system.

10/7 – 10/8/2010
Chiller #2
Checked and verified that Chiller maintained pressure, passed Standing Leak test.
Changed the Liquid Line Driers and placed under vacuum.

10/11/2010
Chiller #2
Broke Vacuum and charged chiller with recovered refrigerant.

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10/13/2010
Chiller #2
Compressor N99L08578M, added 180 lbs R-22

10/14/2010
Chiller #2
Started chiller

10/15/2010
Chiller #2
Checked chiller and found pressure low, found sight glass on Condenser leaking. Tightened but still leaking.

10/18 - 10/22/2010
Chiller #2
Replaced Sight Glass, checked pressure and placed on Vacuum pump.
Checked system and changed oil in Vacuum pump.
Checked system and found Vacuum pump not working, changed Vacuum pump.
Checked system, at 870 Microns so broke vacuum with Nitrogen.
Placed vacuum back on system.
Took Vacuum off after reaching 480 Microns, held for 1 and ½ hours.
Charged unit with recovered R-22

10/25/2010
Chiller #2
Completed charging Chiller with refrigerant
Compressor N99L08578M, added 210 lbs R-22
Started Chiller and set CW Temp